

591508037SeqListAug2010
SEQUENCE LISTING

<110> Nagaike, Kazuhiro
Mori, Yasuko
Gomi, Yasuyuki
Takahashi, Michiaki
Kouichi, Yamanishi

<120> Recombinant varicella-zoster virus

<130> 59150-8037

<140> 10591787

<141> 2009-05-19

<150> PCT/JP2005/003652

<151> 2005-03-05

<150> JP 2004-063277

<151> 2004-03-05

<160> 91

<170> PatentIn version 3.2

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<222> (99)..(99)
<223> The 'Xaa' at location 99 stands for Thr, or Met.

<220>
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<222> (512)..(512)
<223> The 'Xaa' at location 512 stands for Ala, or Val.

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<223> The 'Xaa' at location 1275 stands for Ser, or Leu.

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gcgagagcgt ttggaaaact cgggtacgtc taaattcacc ccagygcg atg gat acg 237
Met Asp Thr
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ccg ccg atg cag cgc tct aca ccc caa cgc gcg ggg tcg cct gat act 285
Pro Pro Met Gln Arg Ser Thr Pro Gln Arg Ala Gly Ser Pro Asp Thr
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ttg gag tta atg gac ctg ttg gac gcg gcc gcc gcg gcc gcc gaa cac 333
Leu Glu Leu Met Asp Leu Leu Asp Ala Ala Ala Ala Ala Ala Glu His
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Arg Ala Arg Val Val Thr Ser Ser Gln Pro Asp Asp Leu Leu Phe Gly
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gag aac ggg gtc atg gtg gga cgg gaa cat gag atc gtt tca att ccc 429
Glu Asn Gly Val Met Val Gly Arg Glu His Glu Ile Val Ser Ile Pro
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gag Glu	cta Leu 85	aca Thr	caa Gln	gac Asp	gac Asp	tac Tyr 90	gta Val	tgc Cys	gag Glu	gac Asp	ggg Gly 95	cag Gln	gat Asp	cta Leu	ayg Xaa	525
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cgc Arg	gaa Glu	cac His 390	gcc Ala	cct Pro	tcc Ser	ccg Pro	tca Ser 395	aat Asn	tcg Ser	gat Asp	gat Asp 400	tcg Ser	gac Asp	tca Ser	aat Asn	1437
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cgg gcc caa aaa cac ttt atc cta cag agt ctc cgc aga gcc ttt gcc Arg Ala Gln Lys His Phe Ile Leu Gln Ser Leu Arg Arg Ala Phe Ala 615 620 625			2109
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<223> The 'xaa' at location 99 stands for Thr, or Met.

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35 40 45

Leu Phe Gly Glu Asn Gly Val Met Val Gly Arg Glu His Glu Ile Val
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Ser Ile Pro Ser Val Ser Gly Leu Gln Pro Glu Pro Arg Thr Glu Asp
65 70 75 80

Val Gly Glu Glu Leu Thr Gln Asp Asp Tyr Val Cys Glu Asp Gly Gln
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Thr Gln Ser Ile Ser Gly Lys Lys Pro Gly Asp Glu Gln Ala Gly His
210 215 220

Ala His Ala Ser Gly Asp Gly Val Val Leu Gln Lys Thr Gln Arg Pro
225 230 235 240

Ala Gln Gly Lys Ser Pro Lys Lys Lys Thr Leu Lys Val Lys Val Pro
245 250 255

Leu Pro Ala Arg Lys Pro Gly Gly Pro Val Pro Gly Pro Val Glu Gln
260 265 270

Leu Tyr His Val Leu Ser Asp Ser Val Pro Ala Lys Gly Ala Lys Ala
275 280 285

Asp Leu Pro Phe Glu Thr Asp Asp Thr Arg Pro Arg Lys His Asp Ala
290 295 300

Arg Gly Ile Thr Pro Arg Val Pro Gly Arg Ser Ser Gly Gly Lys Pro
305 310 315 320

Arg Ala Phe Leu Ala Leu Pro Gly Arg Ser His Ala Pro Asp Pro Ile
325 330 335

Glu Asp Asp Ser Pro Val Glu Lys Lys Pro Lys Ser Arg Glu Phe Val
340 345 350

Ser Ser Ser Ser Ser Ser Ser Trp Gly Ser Ser Ser Glu Asp Glu
355 360 365

Asp Asp Glu Pro Arg Arg Val Ser Val Gly Ser Glu Thr Thr Gly Ser
370 375 380

Arg Ser Gly Arg Glu His Ala Pro Ser Pro Ser Asn Ser Asp Asp Ser

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 Ala Gly Glu Pro Gly Arg Gln Arg Gln Lys Ser Phe Ser Leu Pro Arg
 435 440 445
 Ser Arg Thr Pro Ile Ile Pro Pro Val Ser Gly Pro Leu Met Met Pro
 450 455 460
 Asp Gly Ser Pro Trp Pro Gly Ser Ala Pro Leu Pro Ser Asn Arg Val
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 Pro Leu Tyr Val Pro Glu Leu Gly Asp Pro Ala Arg Gln Tyr Arg Ala
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ttt tgt gaa gac agc agt ggg gag cca aac ttt gca gaa cgg aat ttt	10740
Phe Cys Glu Asp Ser Ser Gly Glu Pro Asn Phe Ala Glu Arg Asn Phe	
515 520 525 530	
tgg cat gcc agc tgt tcg gct cgt gga gtt tat atc gac gga tca atg	10788
Trp His Ala Ser Cys Ser Ala Arg Gly Val Tyr Ile Asp Gly Ser Met	

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535	540	545	
atc acc acc ctt ttc ttc tac gca tcc ctt ttg ggg gtg tgt gta gcc Ile Thr Thr Leu Phe Phe Tyr Ala Ser Leu Leu Gly Val Cys Val Ala 550 555 560			10836
ctt att tcg tta gct tat cat gcg tgt ttc cgg tta ttt act cgt tct Leu Ile Ser Leu Ala Tyr His Ala Cys Phe Arg Leu Phe Thr Arg Ser 565 570 575			10884
gta tta cgc agc acg tgg taaacccggtt tgcctataaaa aggggcaggc Val Leu Arg Ser Thr Trp 580			10932
gtgtataaga gggcccctgt ttaatacgcg gtctgccgtg tttggatatt tcacgaccct			10992
atcgttttatt tacgta atg gca tct tcc gac ggt gac aga ctt tgt cgc tct Met Ala Ser Ser Asp Gly Asp Arg Leu Cys Arg Ser 585 590 595			11044
aat gca gtg cgt cgt aaa aca acg cct agt tat tcc gga caa tat cga Asn Ala Val Arg Arg Lys Thr Thr Pro Ser Tyr Ser Gly Gln Tyr Arg 600 605 610			11092
acc gcg cgg cga agt gtg gtc gta gga ccc ccc gat gat tca gac gac Thr Ala Arg Arg Ser Val Val Val Gly Pro Pro Asp Asp Ser Asp Asp 615 620 625			11140
tcg ttg ggt tac att acc aca gtt ggg gcc gat tct cct tct cca gtg Ser Leu Gly Tyr Ile Thr Thr Val Gly Ala Asp Ser Pro Ser Pro Val 630 635 640			11188
tac gcg gat ctt tat ttt gaa cat aaa aat acg acc cct cgc gta cat Tyr Ala Asp Leu Tyr Phe Glu His Lys Asn Thr Thr Pro Arg Val His 645 650 655 660			11236
caa cca aac gac tcc agc gga tcg gaa gat gac ttt gaa gac atc gat Gln Pro Asn Asp Ser Ser Gly Ser Glu Asp Phe Glu Asp Ile Asp 665 670 675			11284
gaa gta gtg gcc gcc ttt cgg gag gcc cgt ttg aga cat gaa ctg gtt Glu Val Val Ala Ala Phe Arg Glu Ala Arg Leu Arg His Glu Leu Val 680 685 690			11332
gaa gat gct gta tat gaa aac ccg cta agt gta gaa aaa cca tct aga Glu Asp Ala Val Tyr Glu Asn Pro Leu Ser Val Glu Lys Pro Ser Arg 695 700 705			11380
tct ttt act aaa aat gcg gcg gtt aaa cct aaa tta gag gat tca ccg Ser Phe Thr Lys Asn Ala Ala Val Lys Pro Lys Leu Glu Asp Ser Pro 710 715 720			11428
aag cga gct ccc ccg gga gca ggc gca att gcc agc ggg aga cca att Lys Arg Ala Pro Pro Gly Ala Gly Ala Ile Ala Ser Gly Arg Pro Ile 725 730 735 740			11476
tcc ttc agc act gca cca aaa acc gca aca agc tcg tgg tgc ggt cct Ser Phe Ser Thr Ala Pro Lys Thr Ala Thr Ser Ser Trp Cys Gly Pro 745 750 755			11524
acg cca tca tat aac aaa cgc gtc ttt tgt gaa gcg gtc cgg cgc gta Thr Pro Ser Tyr Asn Lys Arg Val Phe Cys Glu Ala Val Arg Arg Val 760 765 770			11572

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gcc Ala	gcc Ala	atg Met 775	cag Gln	gca Ala	caa Gln	aag Lys	gct Ala 780	gcc Ala	gaa Glu	gcg Ala	gct Ala	tgg Trp 785	aat Asn	agt Ser	aat Asn	11620
ccc Pro	cca Pro 790	agg Arg	aat Asn	aac Asn	gcc Ala	gaa Glu 795	tta Leu	gac Asp	cgt Arg	ttg Leu	tta Leu 800	acc Thr	gga Gly	gcc Ala	gtt Val	11668
att Ile 805	cgt Arg	att Ile	acg Thr	gtg Val	cat His 810	gag Glu	ggt Gly	tta Leu	aat Asn	tta Leu 815	ata Ile	caa Gln	gcc Ala	gct Ala	aat Asn 820	11716
gaa Glu	gca Ala	gac Asp	cta Leu	ggt Gly 825	gaa Glu	gga Gly	gca Ala	tcg Ser	gta Val 830	tcc Ser	aaa Lys	cgt Arg	gga Gly	cat His 835	aat Asn	11764
cga Arg	aaa Lys	act Thr	gga Gly 840	gat Asp	tta Leu	cag Gln	ggg Gly	ggc Gly 845	atg Met	ggt Gly	aat Asn	gaa Glu	cct Pro 850	atg Met	tac Tyr	11812
gca Ala	caa Gln	gtt Val 855	cgt Arg	aag Lys	cca Pro	aaa Lys	agt Ser 860	cga Arg	acg Thr	gat Asp	aca Thr	caa Gln 865	acg Thr	act Thr	ggg Gly	11860
cgt Arg 870	ata Ile	act Thr	aat Asn	cga Arg	agt Ser	agg Arg 875	gcc Ala	cgt Arg	tct Ser	gca Ala	tca Ser 880	aga Arg	act Thr	gat Asp	acg Thr	11908
cga Arg 885	aaa Lys	tag	ggatataatt	acgcagtaac	ggttttacccg	gtattatgta										11957
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ctaaagattt	tactctataa	gt	atg	gag	tgt	aat	tta	gga	acc	gaa	cat	cct				12189
			Met	Glu	Cys	Asn	Leu	Gly	Thr	Glu	His	Pro				890 895
agt Ser	aca Thr	gat Asp 900	acg Thr	tgg Trp	aat Asn	cgt Arg	agt Ser	aaa Lys 905	acg Thr	gaa Glu	caa Gln	gcg Ala	gtt Val 910	gtg Val	gac Asp	12237
gca Ala	ttt Phe	gat Asp 915	gaa Glu	tcg Ser	ttg Leu	ttt Phe	ggt Gly 920	gat Asp	gta Val	gca Ala	tcg Ser	gat Asp 925	att Ile	gga Gly	ttt Phe	12285
gaa Glu	acg Thr 930	tcg Ser	tta Leu	tat Tyr	tca Ser	cat His 935	gca Ala	gtt Val	aaa Lys	act Thr	gct Ala 940	ccg Pro	tct Ser	ccg Pro	cct Pro	12333
tgg Trp 945	gta Val	gct Ala	agc Ser	cct Pro	aaa Lys 950	att Ile	tta Leu	tat Tyr	caa Gln	cag Gln 955	tta Leu	ata Ile	cgg Arg	gat Asp	ctt Leu 960	12381
gat Asp	ttt Phe	tca Ser	gaa Glu	ggg Gly 965	ccg Pro	cgt Arg	tta Leu	cta Leu	tca Ser 970	tgt Cys	ctt Leu	gaa Glu	acc Thr	tgg Trp 975	aac Asn	12429

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gag gat tta ttc tca tgt ttt cct att aat gag gac cta tat tcc gat	12477
Glu Asp Leu Phe Ser Cys Phe Pro Ile Asn Glu Asp Leu Tyr Ser Asp	
980 985 990	
atg atg gtt tta tcc ccg gat cca gat gac gtt atc tca acc gtt tca	12525
Met Met Val Leu Ser Pro Asp Pro Asp Asp Val Ile Ser Thr Val Ser	
995 1000 1005	
acc aaa gac cat gtt gaa atg ttt aat tta aca acc cgg ggt tcc	12570
Thr Lys Asp His Val Glu Met Phe Asn Leu Thr Thr Arg Gly Ser	
1010 1015 1020	
gtt cga ttg cct agt cca cca aag caa ccg acg ggg ctt cca gct	12615
Val Arg Leu Pro Ser Pro Pro Lys Gln Pro Thr Gly Leu Pro Ala	
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Tyr Val Gln Glu Val Gln Asp Ser Phe Thr Val Glu Leu Arg Ala	
1040 1045 1050	
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Arg Glu Glu Ala Tyr Thr Lys Leu Leu Val Thr Tyr Cys Lys Ser	
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Ile Ile Arg Tyr Leu Gln Gly Thr Ala Lys Arg Thr Thr Ile Gly	
1070 1075 1080	
ctt aat ata caa aac cct gac cag aaa gct tac acg caa ctc agg	12795
Leu Asn Ile Gln Asn Pro Asp Gln Lys Ala Tyr Thr Gln Leu Arg	
1085 1090 1095	
caa agt att cta ctt aga tat tat cgt gag gtg gca agt ttg gcg	12840
Gln Ser Ile Leu Leu Arg Tyr Tyr Arg Glu Val Ala Ser Leu Ala	
1100 1105 1110	
cgt ctt ctg tac cta cat tta tat tta acc gta acg cgt gaa ttt	12885
Arg Leu Leu Tyr Leu His Leu Tyr Leu Thr Val Thr Arg Glu Phe	
1115 1120 1125	
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Ser Trp Arg Leu Tyr Ala Ser Gln Ser Ala His Pro Asp Val Phe	
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Ala Ala Leu Lys Phe Thr Trp Thr Glu Arg Arg Gln Phe Thr Cys	
1145 1150 1155	
gcg ttt cat cct gta tta tgc aac cac ggc att gtg tta tta gaa	13020
Ala Phe His Pro Val Leu Cys Asn His Gly Ile Val Leu Leu Glu	
1160 1165 1170	
ggg aaa cca cta aca gcg tct gcc ttg agg gaa ata aat tac cgc	13065
Gly Lys Pro Leu Thr Ala Ser Ala Leu Arg Glu Ile Asn Tyr Arg	
1175 1180 1185	
cgc cga gaa ctg gga ctg cct cta gtt aga tgt ggt ctt gtt gaa	13110
Arg Arg Glu Leu Gly Leu Pro Leu Val Arg Cys Gly Leu Val Glu	
1190 1195 1200	
gaa aac aaa tct ccg ttg gtt caa caa ccc tca ttt tcg gtt cat	13155
Glu Asn Lys Ser Pro Leu Val Gln Gln Pro Ser Phe Ser Val His	
1205 1210 1215	

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tta cca cgg tcg gtg ggt ttt ctt acc cac cac att aag cgt aag	13200
Leu Pro Arg Ser Val Gly Phe Leu Thr His His Ile Lys Arg Lys	
1220 1225 1230	
tta gac gca tat gcg gtc aaa cat cct caa gaa ccg aga cat gta	13245
Leu Asp Ala Tyr Ala Val Lys His Pro Gln Glu Pro Arg His Val	
1235 1240 1245	
cga gcg gat cat cct tac gca aaa gtt gtt gaa aat aga aac tac	13290
Arg Ala Asp His Pro Tyr Ala Lys Val Val Glu Asn Arg Asn Tyr	
1250 1255 1260	
ggt agt agc atc gaa gct atg att tta gca cct ccg tcc cca tcc	13335
Gly Ser Ser Ile Glu Ala Met Ile Leu Ala Pro Pro Ser Pro Ser	
1265 1270 1275	
gag atc ctg ccg ggg gac cca cca cgc cca ccc acg tgt ggg ttt	13380
Glu Ile Leu Pro Gly Asp Pro Pro Arg Pro Pro Thr Cys Gly Phe	
1280 1285 1290	
tta acg cgt taa acgtcattgg ggtagagggt gttaaataaat tacgaaaacg	13432
Leu Thr Arg	
1295	
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gtcccatata taaaagaagc cccaacgagt gtatgcgtat tgcgtaccgc gaccctggga	13552
tgtttttacag gcgcgtttgt ttgtctcggt tataagt atg cag tcg ggt cat tat	13607
Met Gln Ser Gly His Tyr	
1300	
aac cgg agg caa tcc cgc cga cag cgg ata tcg tct aat acc aca	13652
Asn Arg Arg Gln Ser Arg Arg Gln Arg Ile Ser Ser Asn Thr Thr	
1305 1310 1315	
gac tcc ccc cgt cac aca cac gga aca cgt tat cgg tca acc aat	13697
Asp Ser Pro Arg His Thr His Gly Thr Arg Tyr Arg Ser Thr Asn	
1320 1325 1330	
tggt tat aca cac cca ccc cag ata ttg tcc aat tca gaa aca tta	13742
Trp Tyr Thr His Pro Pro Gln Ile Leu Ser Asn Ser Glu Thr Leu	
1335 1340 1345	
gtt gcg gtt caa gaa cta ctg aac tcc gag atg gat cag gac agc	13787
Val Ala Val Gln Glu Leu Leu Asn Ser Glu Met Asp Gln Asp Ser	
1350 1355 1360	
agt tct gac gca tcg gat gat ttt ccg gga tac gcc tta cat cat	13832
Ser Ser Asp Ala Ser Asp Phe Pro Gly Tyr Ala Leu His His	
1365 1370 1375	
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Ser Thr Tyr Asn Gly Ser Glu Gln Asn Thr Ser Thr Ser Arg His	
1380 1385 1390	
gaa aat cgc ata ttt aaa tta acg gag agg gaa gct aat gag gaa	13922
Glu Asn Arg Ile Phe Lys Leu Thr Glu Arg Glu Ala Asn Glu Glu	
1395 1400 1405	
atc aac atc aat acg gac gcg atc gag gag gag gga gag gcg gag	13967
Ile Asn Ile Asn Thr Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu	

gag Glu	gga Gly	gag Glu 1425	gcg Ala	gag Glu	gag Glu	gac Asp	gcg Ala 1430	atc Ile	gac Asp	gac Asp	gag Glu	gga Gly 1435	gag Glu	gcg Ala	14012
gag Glu	gag Glu	gga Gly 1440	gag Glu	gcg Ala	gag Glu	gag Glu	gac Asp 1445	gcg Ala	att Ile	gac Asp	gac Asp	gag Glu 1450	gga Gly	gag Glu	14057
gcg Ala	gag Glu	gag Glu 1455	gga Gly	gag Glu	gcg Ala	gag Glu	gag Glu 1460	gac Asp	gcg Ala	att Ile	gac Asp	gac Asp 1465	gag Glu	gga Gly	14102
gag Glu	gcg Ala	gag Glu 1470	gag Glu	gga Gly	gag Glu	gcg Ala	gag Glu 1475	gag Glu	gga Gly	gag Glu	gcg Ala	gag Glu 1480	gag Glu	gga Gly	14147
gag Glu	gcg Ala	gag Glu 1485	gag Glu	gac Asp	gcg Ala	atc Ile	gac Asp 1490	gac Asp	gag Glu	gga Gly	gag Glu	gcg Ala 1495	gag Glu	gag Glu	14192
gac Asp	gcg Ala	gcg Ala 1500	gag Glu	gag Glu	gac Asp	gcg Ala	atc Ile 1505	gac Asp	gac Asp	gag Glu	gga Gly	gag Glu 1510	gcg Ala	gag Glu	14237
gag Glu	gat Asp	tat Tyr 1515	ttt Phe	tct Ser	gta Val	agt Ser	caa Gln 1520	gtt Val	tgc Cys	agt Ser	cga Arg	gac Asp 1525	gcg Ala	gat Asp	14282
gag Glu	gtt Val	tat Tyr 1530	ttt Phe	acg Thr	tta Leu	gac Asp	ccg Pro 1535	gaa Glu	ata Ile	agt Ser	tac Tyr	agt Ser 1540	acc Thr	gat Asp	14327
ctt Leu	cgc Arg	att Ile 1545	gca Ala	aag Lys	gtt Val	atg Met	gag Glu 1550	cct Pro	gcg Ala	gta Val	tca Ser	aag Lys 1555	gaa Glu	ctt Leu	14372
aat Asn	gta Val	tca Ser 1560	aaa Lys	cgt Arg	tgt Cys	gtt Val	gaa Glu 1565	cct Pro	gtt Val	acc Thr	cta Leu	aca Thr 1570	ggc Gly	tct Ser	14417
atg Met	tta Leu	gcg Ala 1575	cat His	aat Asn	ggg Gly	ttt Phe	gat Asp 1580	gag Glu	tcc Ser	tgg Trp	ttt Phe	gct Ala 1585	atg Met	cgc Arg	14462
gaa Glu	tgt Cys	acc Thr 1590	cgt Arg	cgc Arg	gaa Glu	tat Tyr	att Ile 1595	acg Thr	gtc Val	caa Gln	gga Gly	tta Leu 1600	tac Tyr	gac Asp	14507
cca Pro	att Ile	cat His 1605	tta Leu	cgg Arg	tat Tyr	cag Gln	ttt Phe 1610	gat Asp	act Thr	tcc Ser	cgg Arg	atg Met 1615	aca Thr	ccc Pro	14552
cca Pro	cag Gln	att Ile 1620	ttg Leu	aga Arg	act Thr	ata Ile	cca Pro 1625	gcc Ala	ctt Leu	cct Pro	aac Asn	atg Met 1630	aca Thr	ctt Leu	14597
ggt Gly	gaa Glu	ctt Leu 1635	tta Leu	ttg Leu	att Ile	ttt Phe	cct Pro 1640	att Ile	gaa Glu	ttt Phe	atg Met	gcc Ala 1645	cag Gln	cca Pro	14642
att	tct	ata	gaa	cgt	att	tta	gtt	gaa	gat	gta	ttt	tta	gat	agg	14687

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Ile	Ser	Ile	Glu	Arg	Ile	Leu	Val	Glu	Asp	Val	Phe	Leu	Asp	Arg	
		1650					1655					1660			
cgg	gct	tcc	agt	aaa	aca	cat	aaa	tac	ggc	ccg	cgt	tgg	aat	tcc	14732
Arg	Ala	Ser	Ser	Lys	Thr	His	Lys	Tyr	Gly	Pro	Arg	Trp	Asn	Ser	
		1665					1670					1675			
gtc	tac	gca	ctt	cca	tat	aat	gcg	ggg	aaa	atg	tat	gta	caa	cac	14777
Val	Tyr	Ala	Leu	Pro	Tyr	Asn	Ala	Gly	Lys	Met	Tyr	Val	Gln	His	
		1680					1685					1690			
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Ile	Pro	Gly	Phe	Tyr	Asp	Val	Ser	Leu	Arg	Ala	Val	Gly	Gln	Gly	
		1695					1700					1705			
acg	gcc	att	tgg	cat	cac	atg	ata	tta	tcc	aca	gca	gca	tgc	gct	14867
Thr	Ala	Ile	Trp	His	His	Met	Ile	Leu	Ser	Thr	Ala	Ala	Cys	Ala	
		1710					1715					1720			
att	tct	aat	cgc	att	tca	cat	gga	gat	gga	tta	gga	ttt	ttg	tta	14912
Ile	Ser	Asn	Arg	Ile	Ser	His	Gly	Asp	Gly	Leu	Gly	Phe	Leu	Leu	
		1725					1730					1735			
gac	gcg	gca	att	cgt	att	agc	gca	aac	tgt	att	ttt	ttg	gga	cgt	14957
Asp	Ala	Ala	Ile	Arg	Ile	Ser	Ala	Asn	Cys	Ile	Phe	Leu	Gly	Arg	
		1740					1745					1750			
aac	gat	aat	ttt	ggc	gtg	ggg	gat	cca	tgt	tgg	tta	gaa	gac	cat	15002
Asn	Asp	Asn	Phe	Gly	Val	Gly	Asp	Pro	Cys	Trp	Leu	Glu	Asp	His	
		1755					1760					1765			
ctt	gcc	gga	tta	cca	cga	gaa	gcc	gta	ccc	gac	gta	ctc	caa	gtg	15047
Leu	Ala	Gly	Leu	Pro	Arg	Glu	Ala	Val	Pro	Asp	Val	Leu	Gln	Val	
		1770					1775					1780			
aca	cag	ttg	gtt	ttg	cca	aat	cgg	ggg	cca	acg	gtt	gcc	att	atg	15092
Thr	Gln	Leu	Val	Leu	Pro	Asn	Arg	Gly	Pro	Thr	Val	Ala	Ile	Met	
		1785					1790					1795			
cgt	ggg	ttt	ttt	ggg	gcg	ttg	gca	tat	tgg	ccc	gaa	cta	aga	att	15137
Arg	Gly	Phe	Phe	Gly	Ala	Leu	Ala	Tyr	Trp	Pro	Glu	Leu	Arg	Ile	
		1800					1805					1810			
gct	ata	agt	gaa	cca	tct	aca	tct	ttg	gtg	cga	tat	gct	acc	ggg	15182
Ala	Ile	Ser	Glu	Pro	Ser	Thr	Ser	Leu	Val	Arg	Tyr	Ala	Thr	Gly	
		1815					1820					1825			
cac	atg	gaa	ctt	gcc	gaa	tgg	ttt	tta	ttt	tca	cgt	aca	cat	agt	15227
His	Met	Glu	Leu	Ala	Glu	Trp	Phe	Leu	Phe	Ser	Arg	Thr	His	Ser	
		1830					1835					1840			
tta	aag	cca	caa	ttt	acc	cca	acg	gaa	cgg	gaa	atg	tta	gcg	tca	15272
Leu	Lys	Pro	Gln	Phe	Thr	Pro	Thr	Glu	Arg	Glu	Met	Leu	Ala	Ser	
		1845					1850					1855			
ttt	ttt	acg	ttg	tat	gtt	act	ctt	ggg	gga	gga	atg	ttg	aac	tgg	15317
Phe	Phe	Thr	Leu	Tyr	Val	Thr	Leu	Gly	Gly	Gly	Met	Leu	Asn	Trp	
		1860					1865					1870			
atc	tgt	aga	gca	act	gca	atg	tat	tta	gct	gct	cct	tac	cat	tcc	15362
Ile	Cys	Arg	Ala	Thr	Ala	Met	Tyr	Leu	Ala	Ala	Pro	Tyr	His	Ser	
		1875					1880					1885			

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cgt	tcg	gct	tac	atc	gcg	gtc	tgt	gaa	tct	ctg	ccc	tat	tac	tat	15407
Arg	Ser	Ala	Tyr	Ile	Ala	Val	Cys	Glu	Ser	Leu	Pro	Tyr	Tyr	Tyr	
		1890					1895					1900			
atc	ccg	gtt	aat	agt	gac	ctg	tta	tgt	gat	tta	gag	gta	tta	ctg	15452
Ile	Pro	Val	Asn	Ser	Asp	Leu	Leu	Cys	Asp	Leu	Glu	Val	Leu	Leu	
		1905					1910					1915			
tta	ggc	gag	gtc	gac	ctc	cca	act	gtt	tgt	gaa	tcc	tac	gca	act	15497
Leu	Gly	Glu	Val	Asp	Leu	Pro	Thr	Val	Cys	Glu	Ser	Tyr	Ala	Thr	
		1920					1925					1930			
att	gca	cac	gaa	tta	acc	gga	tat	gag	gct	gtt	cgc	aca	gca	gcc	15542
Ile	Ala	His	Glu	Leu	Thr	Gly	Tyr	Glu	Ala	Val	Arg	Thr	Ala	Ala	
		1935					1940					1945			
aca	aat	ttt	atg	ata	gag	ttt	gcc	gat	tgt	tat	aag	gaa	agt	gag	15587
Thr	Asn	Phe	Met	Ile	Glu	Phe	Ala	Asp	Cys	Tyr	Lys	Glu	Ser	Glu	
		1950					1955					1960			
acc	gat	tta	atg	gta	agc	gcg	tac	ctg	ggg	gcc	gtt	tta	ttg	tta	15632
Thr	Asp	Leu	Met	Val	Ser	Ala	Tyr	Leu	Gly	Ala	Val	Leu	Leu	Leu	
		1965					1970					1975			
caa	cgg	gtg	ttg	ggg	cat	gca	aat	ctt	ctt	ttg	ttg	ctt	ctc	tcc	15677
Gln	Arg	Val	Leu	Gly	His	Ala	Asn	Leu	Leu	Leu	Leu	Leu	Leu	Ser	
		1980					1985					1990			
ggg	gct	gcg	ttg	tac	gga	gga	tgt	tca	att	tac	atc	ccc	cga	ggg	15722
Gly	Ala	Ala	Leu	Tyr	Gly	Gly	Cys	Ser	Ile	Tyr	Ile	Pro	Arg	Gly	
		1995					2000					2005			
att	tta	gat	gca	tat	aat	act	tta	atg	ttg	gca	gca	agt	cct	ctt	15767
Ile	Leu	Asp	Ala	Tyr	Asn	Thr	Leu	Met	Leu	Ala	Ala	Ser	Pro	Leu	
		2010					2015					2020			
tac	gct	cac	caa	act	tta	aca	tcc	ttt	tg	aaa	gac	cgc	gat	gat	15812
Tyr	Ala	His	Gln	Thr	Leu	Thr	Ser	Phe	Trp	Lys	Asp	Arg	Asp	Asp	
		2025					2030					2035			
gca	atg	caa	act	ttg	ggg	att	cga	ccg	aca	acg	gac	gtt	tta	ccc	15857
Ala	Met	Gln	Thr	Leu	Gly	Ile	Arg	Pro	Thr	Thr	Asp	Val	Leu	Pro	
		2040					2045					2050			
aaa	gag	caa	gac	agg	ata	gtt	cag	gca	tca	cct	ata	gag	atg	aac	15902
Lys	Glu	Gln	Asp	Arg	Ile	Val	Gln	Ala	Ser	Pro	Ile	Glu	Met	Asn	
		2055					2060					2065			
ttc	cgt	ttt	gtg	gga	ttg	gag	acc	atc	tat	ccc	cga	gaa	cag	ccc	15947
Phe	Arg	Phe	Val	Gly	Leu	Glu	Thr	Ile	Tyr	Pro	Arg	Glu	Gln	Pro	
		2070					2075					2080			
att	ccc	tcc	gtg	gac	cta	gcc	gaa	aat	ctt	atg	caa	tac	agg	aat	15992
Ile	Pro	Ser	Val	Asp	Leu	Ala	Glu	Asn	Leu	Met	Gln	Tyr	Arg	Asn	
		2085					2090					2095			
gaa	att	ctg	ggg	ttg	gat	tg	aaa	agc	gta	gcc	atg	cat	tta	cta	16037
Glu	Ile	Leu	Gly	Leu	Asp	Trp	Lys	Ser	Val	Ala	Met	His	Leu	Leu	
		2100					2105					2110			
cga	aaa	tat	taa	gggttg	tgat	tttttt	catt	aggatg	aaaa	gaacgt	tttcc				16089
Arg	Lys	Tyr													
		2115													

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gtgtgtgttg	tgtggggggg	ccgtgaggat	cgacctttac	aagatataat	ttgtccatat	16209
cgca	atg ttt tct cgg ttt	gcg cgt tcc ttt tcc	agc gat gat aga			16255
	Met Phe Ser Arg Phe	Ala Arg Ser Phe Ser	Ser Asp Asp Arg			
		2120		2125		
acg	cgt aaa tct tat gat	ggg agt tac caa agt	ttt aat gcc ggc			16300
Thr	Arg Lys Ser Tyr Asp	Gly Ser Tyr Gln Ser	Phe Asn Ala Gly			
2130		2135	2140			
gaa	cgt gat ttg ccc aca	cct acc cgg gac tgg	tgt tct att tcc			16345
Glu	Arg Asp Leu Pro Thr	Pro Thr Arg Asp Trp	Cys Ser Ile Ser			
2145		2150	2155			
caa	cgc ata acc agc gag	cgc gtg agg gat gga	tgt ctt att cca			16390
Gln	Arg Ile Thr Ser Glu	Arg Val Arg Asp Gly	Cys Leu Ile Pro			
2160		2165	2170			
acg	ccc ggc gag gct ttg	gag acg gcg gta aag	gct tta tct gaa			16435
Thr	Pro Gly Glu Ala Leu	Glu Thr Ala Val Lys	Ala Leu Ser Glu			
2175		2180	2185			
aag	acc gac agc cta aca	tcg ccg gtt tta caa	agt acc gaa aga			16480
Lys	Thr Asp Ser Leu Thr	Ser Pro Val Leu Gln	Ser Thr Glu Arg			
2190		2195	2200			
cac	agt gtt ctg ctt gga	tta cac cat aat aat	gtt cct gaa tcg			16525
His	Ser Val Leu Leu Gly	Leu His His Asn Asn	Val Pro Glu Ser			
2205		2210	2215			
ttg	gtg gtc tcg tgt atg	tct aac gat gtt cat	gac ggg ttt atg			16570
Leu	Val Val Ser Cys Met	Ser Asn Asp Val His	Asp Gly Phe Met			
2220		2225	2230			
cag	cgt tat atg gaa aca	att caa aga tgt ttg	gat gac ctg aaa			16615
Gln	Arg Tyr Met Glu Thr	Ile Gln Arg Cys Leu	Asp Asp Leu Lys			
2235		2240	2245			
ctt	tct ggg gat gga ctt	tgg tgg gtt tat gaa	aat aca tat tgg			16660
Leu	Ser Gly Asp Gly Leu	Trp Trp Val Tyr Glu	Asn Thr Tyr Trp			
2250		2255	2260			
cag	tat ctc aaa tac acc	aca gga gcc gag gta	ccg gtg act tca			16705
Gln	Tyr Leu Lys Tyr Thr	Thr Gly Ala Glu Val	Pro Val Thr Ser			
2265		2270	2275			
gag	aag gta aat aaa aag	tct aaa tcc acg gtt	ttg ttg ttt tca			16750
Glu	Lys Val Asn Lys Lys	Ser Lys Ser Thr Val	Leu Leu Phe Ser			
2280		2285	2290			
tcc	gta gtt gcc aat aaa	cca ata tcc aga cat	cct ttt aaa tct			16795
Ser	Val Val Ala Asn Lys	Pro Ile Ser Arg His	Pro Phe Lys Ser			
2295		2300	2305			
aaa	gtt ata aat tcg gat	tac cgg gga ata tgt	cag gag cta cgt			16840
Lys	Val Ile Asn Ser Asp	Tyr Arg Gly Ile Cys	Gln Glu Leu Arg			
2310		2315	2320			
gag	gcg tta gga gct gtg	caa aag tat atg tat	ttt atg cgt cca			16885
Glu	Ala Leu Gly Ala Val	Gln Lys Tyr Met Tyr	Phe Met Arg Pro			

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gaa Glu 2355	att Ile	gcg Ala	gct Ala	tac Tyr	acg Thr 2360	gct Ala	act Thr	ggc Gly	tac Tyr	ggg Gly 2365	tgg Trp	atg Met	tta Leu	tgg Trp			16975
ttc Phe 2370	ttg Leu	gac Asp	gtt Val	gtg Val	gac Asp 2375	gcc Ala	agg Arg	gta Val	tgt Cys	cgc Arg 2380	cat His	ctc Leu	aaa Lys	ctt Leu			17020
caa Gln 2385	ttt Phe	cga Arg	cgg Arg	att Ile	cga Arg 2390	ggg Gly	ccg Pro	cgc Arg	gcg Ala	tct Ser 2395	gtt Val	att Ile	cca Pro	gat Asp			17065
gat Asp 2400	ttg Leu	ctt Leu	aga Arg	cga Arg	cat His 2405	tta Leu	aaa Lys	acg Thr	ggg Gly	cct Pro 2410	gcg Ala	gtc Val	tca Ser	gcg Ala			17110
ggc Gly 2415	aca Thr	gga Gly	gtt Val	gcg Ala	ttt Phe 2420	att Ile	tta Leu	gca Ala	gca Ala	aca Thr 2425	act Thr	gcc Ala	agc Ser	gct Ala			17155
ctt Leu 2430	act Thr	gcg Ala	ctt Leu	ttg Leu	cgt Arg 2435	att Ile	agt Ser	gta Val	tta Leu	tgg Trp 2440	cga Arg	aag Lys	gaa Glu	gag Glu			17200
tgg Trp 2445	cgg Arg	gat Asp	ggt Gly	tta Leu	aat Asn 2450	gga Gly	acc Thr	gca Ala	gct Ala	gca Ala 2455	att Ile	gtt Val	gcg Ala	gcg Ala			17245
gtt Val 2460	gaa Glu	ctt Leu	att Ile	acg Thr	ctt Leu 2465	ttg Leu	cac His	cac His	cat His	ttt Phe 2470	caa Gln	tac Tyr	tta Leu	att Ile			17290
aat Asn 2475	atg Met	atg Met	ctt Leu	att Ile	gga Gly 2480	tat Tyr	gca Ala	tgt Cys	tgg Trp	ggg Gly 2485	gat Asp	ggg Gly	gga Gly	tta Leu			17335
aac Asn 2490	gat Asp	cct Pro	tat Tyr	ata Ile	tta Leu 2495	aag Lys	gcg Ala	cta Leu	cgt Arg	gcc Ala 2500	cag Gln	gga Gly	cgg Arg	ttt Phe			17380
tta Leu 2505	tat Tyr	ttt Phe	gcg Ala	ggt Gly	cag Gln 2510	ttg Leu	gtc Val	aga Arg	aca Thr	atg Met 2515	tca Ser	aca Thr	cac His	agt Ser			17425
tgg Trp 2520	gtt Val	gtg Val	tta Leu	gag Glu	acc Thr 2525	agc Ser	acc Thr	cat His	atg Met	tgg Trp 2530	ttt Phe	tcc Ser	cgg Arg	gcc Ala			17470
gtg Val 2535	gcg Ala	cag Gln	agt Ser	att Ile	tta Leu 2540	gca Ala	cat His	ggg Gly	ggt Gly	aaa Lys 2545	ccc Pro	aca Thr	aag Lys	tat Tyr			17515
tat Tyr 2550	gct Ala	cag Gln	gtt Val	ctt Leu	gcc Ala 2555	gcc Ala	agt Ser	aaa Lys	cgg Arg	tat Tyr 2560	act Thr	ccg Pro	tta Leu	cat His			17560
tta	aga	cgt	ata	tcc	gaa	cca	tcg	agt	gtg	tct	gat	cag	ccg	tat			17605

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aat Asn 2595	ttg Leu	gaa Glu	tgt Cys	gtc Val	tgt Cys 2600	tta Leu	acg Thr	gga Gly	aat Asn	tat Tyr 2605	tta Leu	tct Ser	gac Asp	gac Asp	17695
gta Val 2610	aat Asn	gca Ala	agt Ser	tcg Ser	cat His 2615	gta Val	att Ile	aat Asn	aca Thr	gaa Glu 2620	gca Ala	ccg Pro	tta Leu	aac Asn	17740
agt Ser 2625	ata Ile	gca Ala	ccc Pro	gat Asp	aca Thr 2630	aat Asn	aga Arg	cag Gln	cgg Arg	act Thr 2635	tct Ser	cgc Arg	gtt Val	tta Leu	17785
gtt Val 2640	cgt Arg	cca Pro	gac Asp	acg Thr	ggg Gly 2645	ttg Leu	gat Asp	gta Val	act Thr	gtc Val 2650	cga Arg	aaa Lys	aac Asn	cac His	17830
tgt Cys 2655	ctg Leu	gac Asp	ata Ile	ggc Gly	cat His 2660	acg Thr	gac Asp	ggg Gly	agt Ser	cca Pro 2665	gtt Val	gac Asp	cca Pro	acg Thr	17875
tat Tyr 2670	cct Pro	gat Asp	cat His	tac Tyr	acc Thr 2675	cgg Arg	ata Ile	aag Lys	gcg Ala	gaa Glu 2680	tat Tyr	gaa Glu	ggg Gly	ccg Pro	17920
gtt Val 2685	cgg Arg	gat Asp	gaa Glu	tca Ser	aac Asn 2690	aca Thr	atg Met	ttt Phe	gac Asp	caa Gln 2695	aga Arg	tcg Ser	gat Asp	tta Leu	17965
cgt Arg 2700	cac His	ata Ile	gaa Glu	acc Thr	caa Gln 2705	gca Ala	tct Ser	tta Leu	aat Asn	gat Asp 2710	cac His	gta Val	tat Tyr	gaa Glu	18010
aat Asn 2715	ata Ile	cca Pro	ccc Pro	aag Lys	gaa Glu 2720	gtg Val	ggg Gly	ttt Phe	aac Asn	tca Ser 2725	tct Ser	tca Ser	gac Asp	ctg Leu	18055
gat Asp 2730	gtg Val	gat Asp	agc Ser	ctt Leu	aac Asn 2735	ggg Gly	tac Tyr	acc Thr	tcc Ser	gga Gly 2740	gac Asp	atg Met	cat His	aca Thr	18100
gac Asp 2745	gat Asp	gac Asp	tta Leu	tca Ser	cca Pro 2750	gat Asp	ttt Phe	ata Ile	ccc Pro	aac Asn 2755	gac Asp	gtt Val	ccc Pro	gtt Val	18145
aga Arg 2760	tgt Cys	aaa Lys	acc Thr	acg Thr	gtt Val 2765	acg Thr	ttt Phe	agg Arg	aaa Lys	aat Asn 2770	acg Thr	cct Pro	aag Lys	agt Ser	18190
cat His 2775	cat His	tta	gtacagcggg	taataagatag	ttatggacta	ggcacttttg									18239
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		Met Gly Asp Leu	Ser Cys Trp Thr	Lys Val		
		2780		2785		
ccg ggt ttt acg	tta acc ggc gaa ctt	cag tac tta aaa caa	gtg	18515		
Pro Gly Phe Thr	Leu Thr Gly Glu Leu	Gln Tyr Leu Lys Gln	Val			
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gat gat att tta	agg tat gga gtt cgg	aaa cgc gat cga aca	gga	18560		
Asp Asp Ile Leu	Arg Tyr Gly Val Arg	Lys Arg Asp Arg Thr	Gly			
	2805	2810	2815			
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Ile Gly Thr Leu	Ser Leu Phe Gly Met	Gln Ala Arg Tyr Asn	Leu			
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cga aat gaa ttt	cct ctt tta act aca	aag cgt gtt ttt tgg	agg	18650		
Arg Asn Glu Phe	Pro Leu Leu Thr Thr	Lys Arg Val Phe Trp	Arg			
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Ala Val Val Glu	Glu Leu Leu Trp Phe	Ile Arg Gly Ser Thr	Asp			
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tcc aaa gaa ctc	gcc gct aaa gat ata	cac ata tgg gat ata	tac	18740		
Ser Lys Glu Leu	Ala Ala Lys Asp Ile	His Ile Trp Asp Ile	Tyr			
	2865	2870	2875			
gga tcg agc aaa	ttt cta aat agg aat	ggc ttc cat aaa aga	cac	18785		
Gly Ser Ser Lys	Phe Leu Asn Arg Asn	Gly Phe His Lys Arg	His			
	2880	2885	2890			
acg ggg gac ctt	ggc ccc att tac ggc	ttc cag tgg aga cat	ttt	18830		
Thr Gly Asp Leu	Gly Pro Ile Tyr Gly	Phe Gln Trp Arg His	Phe			
	2895	2900	2905			
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Gly Ala Glu Tyr	Lys Asp Cys Gln Ser	Asn Tyr Leu Gln Gln	Gly			
	2910	2915	2920			
atc gat cag ctg	caa act gtt ata gat	aca att aaa aca aac	cca	18920		
Ile Asp Gln Leu	Gln Thr Val Ile Asp	Thr Ile Lys Thr Asn	Pro			
	2925	2930	2935			
gaa agc cga cga	atg att ata tcg tct	tgg aat cca aag gat	atc	18965		
Glu Ser Arg Arg	Met Ile Ile Ser Ser	Trp Asn Pro Lys Asp	Ile			
	2940	2945	2950			
ccc tta atg gta	cta cct cca tgt cac	acg tta tgt cag ttt	tac	19010		
Pro Leu Met Val	Leu Pro Pro Cys His	Thr Leu Cys Gln Phe	Tyr			
	2955	2960	2965			
gtt gca aac ggt	gaa tta tcc tgc caa	gta tac cag aga tcg	ggg	19055		
Val Ala Asn Gly	Glu Leu Ser Cys Gln	Val Tyr Gln Arg Ser	Gly			
	2970	2975	2980			
gat atg ggc ctt	ggg gta ccg ttc aac	att gct gga tat gca	ctt	19100		
Asp Met Gly Leu	Gly Val Pro Phe Asn	Ile Ala Gly Tyr Ala	Leu			
	2985	2990	2995			
ctt acc tac ata	gta gcg cat gtt aca	gga ctt aaa acc gga	gat	19145		

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Leu	Ile	His	Thr	Met	Gly	Asp	Ala	His	Ile	Tyr	Leu	Asn	His	Ile	
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Asp	Ala	Leu	Lys	Val	Gln	Leu	Ala	Arg	Ser	Pro	Lys	Pro	Phe	Pro	
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tgc	ctt	aaa	att	att	cga	aat	gta	aca	gat	ata	aac	gac	ttt	aaa	19280
Cys	Leu	Lys	Ile	Ile	Arg	Asn	Val	Thr	Asp	Ile	Asn	Asp	Phe	Lys	
			3045					3050					3055		
tgg	gac	gat	ttt	cag	ctt	gat	gga	tat	aat	cca	cac	ccc	ccc	cta	19325
Trp	Asp	Asp	Phe	Gln	Leu	Asp	Gly	Tyr	Asn	Pro	His	Pro	Pro	Leu	
			3060					3065					3070		
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Lys	Met	Glu	Met	Ala	Leu										
			3075												
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cct	tat	gtt	ttt	gag	aca	tcc	ccg	gga	atg	ctt	gct	agg	aga	ctt	31685
Pro	Tyr	Val	Phe	Glu	Thr	Ser	Pro	Gly	Met	Leu	Ala	Arg	Arg	Leu	
			3830					3835					3840		
aga	tta	gac	aat	ggt	ata	tgg	gaa	agc	aac	ctc	tta	tcg	ttg	tcc	31730
Arg	Leu	Asp	Asn	Gly	Ile	Trp	Glu	Ser	Asn	Leu	Leu	Ser	Leu	Ser	
			3845					3850					3855		

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acc	ccc	gga	att	cat	att	gag	gcg	ctg	tta	cat	tta	cta	aac	tcc	31775
Thr	Pro	Gly	Ile	His	Ile	Glu	Ala	Leu	Leu	His	Leu	Leu	Asn	Ser	
			3860					3865					3870		
gac	ccg	gaa	gcg	gaa	acc	aca	tct	gga	agt	aat	gta	gca	gaa	cac	31820
Asp	Pro	Glu	Ala	Glu	Thr	Thr	Ser	Gly	Ser	Asn	Val	Ala	Glu	His	
			3875					3880					3885		
acc	cgt	ggc	att	tgg	gaa	aag	gtt	cag	gct	agt	aca	tcg	cct	agt	31865
Thr	Arg	Gly	Ile	Trp	Glu	Lys	Val	Gln	Ala	Ser	Thr	Ser	Pro	Ser	
			3890					3895					3900		
atg	tta	ata	agc	acc	ctt	gcc	gaa	tcc	ggg	ttt	aca	aga	ttt	tca	31910
Met	Leu	Ile	Ser	Thr	Leu	Ala	Glu	Ser	Gly	Phe	Thr	Arg	Phe	Ser	
			3905					3910					3915		
tgc	aaa	ttg	cta	cgt	cgg	ttt	att	gct	cac	cac	aca	ctc	gcc	ggc	31955
Cys	Lys	Leu	Leu	Arg	Arg	Phe	Ile	Ala	His	His	Thr	Leu	Ala	Gly	
			3920					3925					3930		
ttt	att	cac	gga	agc	gtt	gta	gca	gac	gag	cat	att	aca	gat	ttc	32000
Phe	Ile	His	Gly	Ser	Val	Val	Ala	Asp	Glu	His	Ile	Thr	Asp	Phe	
			3935					3940					3945		
caa	caa	aca	cta	gga	tgt	ctc	gct	tta	gtg	ggc	gga	ctg	gca	tac	32045
Gln	Gln	Thr	Leu	Gly	Cys	Leu	Ala	Leu	Val	Gly	Gly	Leu	Ala	Tyr	
			3950					3955					3960		
caa	tta	gtg	gaa	acg	tac	gct	cct	act	acc	gag	tat	gtg	tta	aca	32090
Gln	Leu	Val	Glu	Thr	Tyr	Ala	Pro	Thr	Thr	Glu	Tyr	Val	Leu	Thr	
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tat	aca	cgg	aca	gta	aac	gag	acc	gaa	aaa	cgg	tat	gaa	acg	cta	32135
Tyr	Thr	Arg	Thr	Val	Asn	Glu	Thr	Glu	Lys	Arg	Tyr	Glu	Thr	Leu	
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tta	ccc	gcc	tta	gga	tta	cca	ccg	gga	ggc	ctg	gga	caa	att	atg	32180
Leu	Pro	Ala	Leu	Gly	Leu	Pro	Pro	Gly	Gly	Leu	Gly	Gln	Ile	Met	
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cgg	cgc	tgt	ttt	gct	cca	cga	ccc	ctt	att	gaa	agt	ata	caa	gcg	32225
Arg	Arg	Cys	Phe	Ala	Pro	Arg	Pro	Leu	Ile	Glu	Ser	Ile	Gln	Ala	
			4010					4015					4020		
aca	cgc	gta	ata	cta	ctt	aat	gaa	att	tca	cat	gca	gaa	gct	aga	32270
Thr	Arg	Val	Ile	Leu	Leu	Asn	Glu	Ile	Ser	His	Ala	Glu	Ala	Arg	
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gag	aca	aca	tat	ttt	aag	caa	aca	cat	aat	caa	tcc	tca	ggc	gcg	32315
Glu	Thr	Thr	Tyr	Phe	Lys	Gln	Thr	His	Asn	Gln	Ser	Ser	Gly	Ala	
			4040					4045					4050		
tta	tta	cca	caa	gca	gga	caa	agt	gcc	gta	cgc	gaa	gcc	gta	cta	32360
Leu	Leu	Pro	Gln	Ala	Gly	Gln	Ser	Ala	Val	Arg	Glu	Ala	Val	Leu	
			4055					4060					4065		
acc	tgg	ttt	gac	cta	cgt	atg	gat	tca	aga	tgg	ggc	att	act	ccc	32405
Thr	Trp	Phe	Asp	Leu	Arg	Met	Asp	Ser	Arg	Trp	Gly	Ile	Thr	Pro	
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ccg	gtg	gat	gtg	ggc	atg	aca	cct	cct	att	tgt	gtt	gat	cca	ccg	32450
Pro	Val	Asp	Val	Gly	Met	Thr	Pro	Pro	Ile	Cys	Val	Asp	Pro	Pro	
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Ala	Thr	Gly	Leu	Glu	Ala	Val	Met	Ile	Thr	Glu	Ala	Leu	Lys	Ile	
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gca	tat	cct	acc	gaa	tat	aat	cgc	tct	agc	gtg	ttt	gtg	gaa	ccg	32540
Ala	Tyr	Pro	Thr	Glu	Tyr	Asn	Arg	Ser	Ser	Val	Phe	Val	Glu	Pro	
			4115					4120					4125		
tcg	ttt	gtg	cct	tat	att	att	gca	aca	agc	acg	ctt	gat	gcc	ctt	32585
Ser	Phe	Val	Pro	Tyr	Ile	Ile	Ala	Thr	Ser	Thr	Leu	Asp	Ala	Leu	
			4130					4135					4140		
tcg	gca	aca	ata	gct	ttg	tct	ttt	gat	aca	cgg	gga	ata	cag	caa	32630
Ser	Ala	Thr	Ile	Ala	Leu	Ser	Phe	Asp	Thr	Arg	Gly	Ile	Gln	Gln	
			4145					4150					4155		
gcc	ttg	tct	att	ctt	cag	tgg	gct	cgc	gat	tat	gga	tcc	gga	acc	32675
Ala	Leu	Ser	Ile	Leu	Gln	Trp	Ala	Arg	Asp	Tyr	Gly	Ser	Gly	Thr	
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gtg	ccc	aat	gca	gat	gga	tat	cgc	aca	aaa	cta	tct	gct	ctt	ata	32720
Val	Pro	Asn	Ala	Asp	Gly	Tyr	Arg	Thr	Lys	Leu	Ser	Ala	Leu	Ile	
			4175					4180					4185		
aca	ata	tta	gaa	cct	ttt	acc	cgt	aca	cac	ccc	cca	gta	ctt	tta	32765
Thr	Ile	Leu	Glu	Pro	Phe	Thr	Arg	Thr	His	Pro	Pro	Val	Leu	Leu	
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cca	tct	cac	gtt	tct	act	ata	gat	tcc	ctt	ata	tgc	gaa	ctt	cat	32810
Pro	Ser	His	Val	Ser	Thr	Ile	Asp	Ser	Leu	Ile	Cys	Glu	Leu	His	
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cgg	act	gtt	ggc	att	gcc	gtt	gac	ctg	ctt	ccc	cag	cac	gtc	cgt	32855
Arg	Thr	Val	Gly	Ile	Ala	Val	Asp	Leu	Leu	Pro	Gln	His	Val	Arg	
			4220					4225					4230		
cct	ttg	gtt	cct	gac	cgt	cct	tct	att	aca	aat	agc	gtt	ttt	tta	32900
Pro	Leu	Val	Pro	Asp	Arg	Pro	Ser	Ile	Thr	Asn	Ser	Val	Phe	Leu	
			4235					4240					4245		
gca	act	ctc	tat	tat	gat	gaa	ctt	tac	ggg	cgt	tgg	acc	cga	ctg	32945
Ala	Thr	Leu	Tyr	Tyr	Asp	Glu	Leu	Tyr	Gly	Arg	Trp	Thr	Arg	Leu	
			4250					4255					4260		
gat	aaa	aca	tcg	cag	gcg	ttg	gtt	gaa	aat	ttt	aca	tcc	aac	gcg	32990
Asp	Lys	Thr	Ser	Gln	Ala	Leu	Val	Glu	Asn	Phe	Thr	Ser	Asn	Ala	
			4265					4270					4275		
tta	gtg	gtt	tct	cgg	tac	atg	tta	atg	tta	caa	aaa	ttt	ttt	gcg	33035
Leu	Val	Val	Ser	Arg	Tyr	Met	Leu	Met	Leu	Gln	Lys	Phe	Phe	Ala	
			4280					4285					4290		
tgt	cgt	ttt	tat	cca	acg	cca	gat	ctt	cag	gct	gtt	ggg	atc	tgt	33080
Cys	Arg	Phe	Tyr	Pro	Thr	Pro	Asp	Leu	Gln	Ala	Val	Gly	Ile	Cys	
			4295					4300					4305		
aac	cca	aag	gtt	gaa	cgc	gat	gaa	caa	ttt	ggg	gta	tgg	cgt	tta	33125
Asn	Pro	Lys	Val	Glu	Arg	Asp	Glu	Gln	Phe	Gly	Val	Trp	Arg	Leu	
			4310					4315					4320		
aac	gat	ctt	gct	gat	gcg	gtt	ggg	cat	att	gtt	ggg	aca	ata	caa	33170
Asn	Asp	Leu	Ala	Asp	Ala	Val	Gly	His	Ile	Val	Gly	Thr	Ile	Gln	

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4325				4330				4335				
gga atc cga acg	caa atg aga gtg	gga ata tcc agc ctg	cgc aca	33215								
Gly Ile Arg Thr	Gln Met Arg Val	Gly Ile Ser Ser Leu	Arg Thr									
4340	4345	4350										
att atg gcc gat	gct tcc tca gcc	ctt agg gaa tgt gaa	aat tta	33260								
Ile Met Ala Asp	Ala Ser Ser Ala	Leu Arg Glu Cys Glu	Asn Leu									
4355	4360	4365										
atg act aaa acc	tcc act tct gct	att ggg cct ctt ttt	tca acg	33305								
Met Thr Lys Thr	Ser Thr Ser Ala	Ile Gly Pro Leu Phe	Ser Thr									
4370	4375	4380										
atg gct tcc cgg	tat gca cgg ttt	aca cag gat caa atg	gac att	33350								
Met Ala Ser Arg	Tyr Ala Arg Phe	Thr Gln Asp Gln Met	Asp Ile									
4385	4390	4395										
tta atg cgt gtt	gac aaa cta aca	aca gga gaa aat ata	ccc ggt	33395								
Leu Met Arg Val	Asp Lys Leu Thr	Thr Gly Glu Asn Ile	Pro Gly									
4400	4405	4410										
ctt gca aat gta	gag att ttt tta	aat agg tgg gaa cga	ata gca	33440								
Leu Ala Asn Val	Glu Ile Phe Leu	Asn Arg Trp Glu Arg	Ile Ala									
4415	4420	4425										
aca gct tgt agg	cat gcc acg gca	gtc ccg tcg gcc gaa	tct att	33485								
Thr Ala Cys Arg	His Ala Thr Ala	Val Pro Ser Ala Glu	Ser Ile									
4430	4435	4440										
gca acc gtg tgt	aat gaa ttg agg	cgc ggt tta aaa aat	ata caa	33530								
Ala Thr Val Cys	Asn Glu Leu Arg	Arg Gly Leu Lys Asn	Ile Gln									
4445	4450	4455										
gag gat cgt gta	aat gcc cca acc	tca tat atg agt cac	gcc cga	33575								
Glu Asp Arg Val	Asn Ala Pro Thr	Ser Tyr Met Ser His	Ala Arg									
4460	4465	4470										
aat ctg gaa gat	cac aag gca gca	gtt tca ttc gtt atg	gac tcc	33620								
Asn Leu Glu Asp	His Lys Ala Ala	Val Ser Phe Val Met	Asp Ser									
4475	4480	4485										
agg caa cag ttt	att gtg gat tct	gga cct cag atg ggc	gcg gtt	33665								
Arg Gln Gln Phe	Ile Val Asp Ser	Gly Pro Gln Met Gly	Ala Val									
4490	4495	4500										
tta act tca caa	tgt aat ata gga	aca tgg gag aat gta	aat gca	33710								
Leu Thr Ser Gln	Cys Asn Ile Gly	Thr Trp Glu Asn Val	Asn Ala									
4505	4510	4515										
acg ttt tta cat	gat aat gtt aaa	ata acg aca acg gtc	aga gac	33755								
Thr Phe Leu His	Asp Asn Val Lys	Ile Thr Thr Thr Val	Arg Asp									
4520	4525	4530										
gta att tca gag	gct ccg acg ctg	ata ata gga caa aga	tgg ctt	33800								
Val Ile Ser Glu	Ala Pro Thr Leu	Ile Ile Gly Gln Arg	Trp Leu									
4535	4540	4545										
cgt cca gat gag	att tta tct aat	gta gat ttg cgt ctt	ggc gta	33845								
Arg Pro Asp Glu	Ile Leu Ser Asn	Val Asp Leu Arg Leu	Gly Val									
4550	4555	4560										
ccc ggg aat aca	agt ggg agt gac	cct taa tataaaacag	gcgtgtttat	33895								

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Pro Gly Asn Thr Ser Gly Ser Asp Pro	4565	4570	
gtacattaaa gtatttgtgg tttttattga ctgggcgttt cgtttgtata acgctgttgt			33955
tgctagtatt ttcataacct cctagggtttt tggagctaca cgtgcttatt caacgctctt			34015
tgggatttga atcatcgtaa acgtagcgtc cctaccagtt gagcgcgtaa ttttcgtaag			34075
caataaa atg gat ata att ccg cct ata gct gtc act gtt gcg gga gtg			34124
Met Asp Ile Ile Pro Pro Ile Ala Val Thr Val Ala Gly Val	4575	4580	
gga agc cgt aat caa ttt gac ggt gcc ctg gga ccg gcg tca ggt			34169
Gly Ser Arg Asn Gln Phe Asp Gly Ala Leu Gly Pro Ala Ser Gly	4585	4590	4595
ctg tca tgt tta aga aca tct tta tcg ttt ttg cat atg aca tat			34214
Leu Ser Cys Leu Arg Thr Ser Leu Ser Phe Leu His Met Thr Tyr	4600	4605	4610
gcg cat gga att aat gca acc ctg tca tca gac atg att gat gga			34259
Ala His Gly Ile Asn Ala Thr Leu Ser Ser Asp Met Ile Asp Gly	4615	4620	4625
tgt tta caa gag ggt gca gca tgg act acg gat ctg tct aat atg			34304
Cys Leu Gln Glu Gly Ala Ala Trp Thr Thr Asp Leu Ser Asn Met	4630	4635	4640
ggg agg ggt gtc cca gat atg tgt gct ctt gtt gat ctc ccc aat			34349
Gly Arg Gly Val Pro Asp Met Cys Ala Leu Val Asp Leu Pro Asn	4645	4650	4655
cga att tca tat att aaa ctg ggg gac act acc agt acg tgc tgc			34394
Arg Ile Ser Tyr Ile Lys Leu Gly Asp Thr Thr Ser Thr Cys Cys	4660	4665	4670
gtt ttg tct aga ata tac ggc gat agc cat ttt ttt acc gtt cca			34439
Val Leu Ser Arg Ile Tyr Gly Asp Ser His Phe Phe Thr Val Pro	4675	4680	4685
gac gag ggt ttt atg tgc aca caa att ccc gct aga gcg ttt ttc			34484
Asp Glu Gly Phe Met Cys Thr Gln Ile Pro Ala Arg Ala Phe Phe	4690	4695	4700
gat gat gtg tgg atg gga cgt gaa gag tcg tat aca att ata act			34529
Asp Asp Val Trp Met Gly Arg Glu Glu Ser Tyr Thr Ile Ile Thr	4705	4710	4715
gta gac tca acg gga atg gcc atc tat cgt cag gga aac ata tct			34574
Val Asp Ser Thr Gly Met Ala Ile Tyr Arg Gln Gly Asn Ile Ser	4720	4725	4730
ttt att ttt gat cca cat ggc cat ggg act ata gga cag gct gta			34619
Phe Ile Phe Asp Pro His Gly His Gly Thr Ile Gly Gln Ala Val	4735	4740	4745
gtt gtt cgg gtg aat acc acg gat gtg tac tct tat atc gca tcg			34664
Val Val Arg Val Asn Thr Thr Asp Val Tyr Ser Tyr Ile Ala Ser	4750	4755	4760
gag tat acc cac cgc ccc gat aac gta gaa tcc caa tgg gcc gct			34709
Glu Tyr Thr His Arg Pro Asp Asn Val Glu Ser Gln Trp Ala Ala			

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4765															4770															4775														
gca Ala 4780	tta Leu	gtt Val	ttt Phe	ttt Phe	gtc Val 4785	acc Thr	gca Ala	aac Asn	gac Asp	ggc Gly 4790	ccc Pro	gta Val	agc Ser	gaa Glu		34754																												
gaa Glu 4795	gcg Ala	cta Leu	tct Ser	tcg Ser	gca Ala 4800	gta Val	acg Thr	ctt Leu	ata Ile	tac Tyr 4805	gga Gly	agc Ser	tgt Cys	gat Asp		34799																												
aca Thr 4810	tat Tyr	ttt Phe	aca Thr	gat Asp	gaa Glu 4815	caa Gln	tat Tyr	tgc Cys	gaa Glu	aaa Lys 4820	ctg Leu	gtt Val	aca Thr	gct Ala		34844																												
caa Gln 4825	cat His	ccg Pro	ttg Leu	ctt Leu	ctt Leu 4830	tca Ser	cct Pro	cct Pro	aat Asn	tcc Ser 4835	acg Thr	aca Thr	att Ile	gtg Val		34889																												
ctt Leu 4840	aat Asn	aaa Lys	tcg Ser	tct Ser	ata Ile 4845	gta Val	cct Pro	ctt Leu	cac His	caa Gln 4850	aac Asn	gtt Val	ggc Gly	gaa Glu		34934																												
agt Ser 4855	gta Val	tcc Ser	ttg Leu	gaa Glu	gca Ala 4860	acc Thr	cta Leu	cat His	tca Ser	acg Thr 4865	tta Leu	acc Thr	aac Asn	acg Thr		34979																												
gtt Val 4870	gca Ala	ctg Leu	gac Asp	cct Pro	aga Arg 4875	tgt Cys	agt Ser	tac Tyr	agc Ser	gag Glu 4880	gtt Val	gat Asp	cct Pro	tgg Trp		35024																												
cat His 4885	gcg Ala	gtt Val	cta Leu	gaa Glu	aca Thr 4890	acc Thr	tcg Ser	act Thr	ggc Gly	tct Ser 4895	ggc Gly	gtt Val	ttg Leu	gat Asp		35069																												
tgt Cys 4900	cgt Arg	cgt Arg	aga Arg	cgc Arg	cgt Arg 4905	cct Pro	tca Ser	tgg Trp	act Thr	cct Pro 4910	cct Pro	tca Ser	agc Ser	gag Glu		35114																												
gaa Glu 4915	aat Asn	tta Leu	gct Ala	tgt Cys	atc Ile 4920	gac Asp	gat Asp	ggc Gly	ttg Leu	gta Val 4925	aat Asn	aat Asn	aca Thr	cat His		35159																												
tcc Ser 4930	acg Thr	gat Asp	aat Asn	tta Leu	cat His 4935	aaa Lys	ccc Pro	gct Ala	aaa Lys	aag Lys 4940	gtt Val	ctc Leu	aaa Lys	ttt Phe		35204																												
aaa Lys 4945	cca Pro	act Thr	gta Val	gac Asp	gtg Val 4950	ccg Pro	gat Asp	aaa Lys	aca Thr	caa Gln 4955	gtg Val	gca Ala	cat His	gta Val		35249																												
tta Leu 4960	ccc Pro	cgc Arg	cta Leu	cga Arg	gaa Glu 4965	gtt Val	gct Ala	aac Asn	acc Thr	cca Pro 4970	gac Asp	gtt Val	gtg Val	tta Leu		35294																												
aat Asn 4975	gta Val	tcc Ser	aat Asn	gta Val	gat Asp 4980	acg Thr	cct Pro	gaa Glu	tcc Ser	agt Ser 4985	ccc Pro	act Thr	ttt Phe	tca Ser		35339																												
cgg Arg 4990	aac Asn	atg Met	aat Asn	gta Val	gga Gly 4995	agc Ser	agt Ser	ttg Leu	aaa Lys	gat Asp 5000	cgg Arg	aag Lys	cca Pro	ttt Phe		35384																												
cta	ttt	gaa	cag	agt	ggt	gat	gtc	aac	atg	gtt	gtc	gaa	aaa	cta		35429																												

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Leu 5005	Phe	Glu	Gln	Ser	Gly 5010	Asp	Val	Asn	Met	Val 5015	Val	Glu	Lys	Leu	
cta Leu 5020	caa Gln	cat His	ggg Gly	cat His	gaa Glu 5025	att Ile	agc Ser	aat Asn	gga Gly	tac Tyr 5030	gta Val	caa Gln	aat Asn	gcg Ala	35474
gtg Val 5035	ggg Gly	acg Thr	ttg Leu	gat Asp	act Thr 5040	ggt Val	att Ile	acc Thr	ggg Gly	cat His 5045	aca Thr	aat Asn	ggt Val	ccc Pro	35519
att Ile 5050	tgg Trp	gta Val	aca Thr	agg Arg	ccc Pro 5055	ttg Leu	ggt Val	atg Met	cca Pro	gac Asp 5060	gaa Glu	aag Lys	gat Asp	cca Pro	35564
ttg Leu 5065	gag Glu	ctt Leu	ttt Phe	att Ile	aac Asn 5070	ctc Leu	acc Thr	att Ile	ttg Leu	cgt Arg 5075	tta Leu	acg Thr	gga Gly	ttt Phe	35609
gtg Val 5080	gtg Val	gaa Glu	aat Asn	gga Gly	aca Thr 5085	cgt Arg	aca Thr	cat His	cat His	ggg Gly 5090	gct Ala	aca Thr	agc Ser	ggt Val	35654
gta Val 5095	tca Ser	gac Asp	ttt Phe	ata Ile	ggg Gly 5100	ccc Pro	ctt Leu	ggg Gly	gaa Glu	att Ile 5105	tta Leu	aca Thr	gga Gly	ttt Phe	35699
ccc Pro 5110	tcc Ser	gcc Ala	gcg Ala	gaa Glu	ctt Leu 5115	ata Ile	cgc Arg	ggt Val	aca Thr	agt Ser 5120	ttg Leu	ata Ile	tta Leu	aca Thr	35744
aac Asn 5125	atg Met	ccg Pro	ggg Gly	gag Ala	gaa Glu 5130	tat Tyr	gct Ala	att Ile	aaa Lys	act Thr 5135	gtt Val	ctc Leu	cgg Arg	aaa Lys	35789
aaa Lys 5140	tgt Cys	aca Thr	att Ile	ggc Gly	atg Met 5145	ctc Leu	att Ile	atc Ile	gct Ala	aag Lys 5150	ttt Phe	ggg Gly	cta Leu	ggt Val	35834
gcc Ala 5155	atg Met	cgg Arg	ggt Val	cag Gln	gat Asp 5160	aca Thr	acc Thr	ggc Gly	gct Ala	tta Leu 5165	cat His	gcc Ala	gaa Glu	cta Leu	35879
gat Asp 5170	gtg Val	tta Leu	gaa Glu	gag Ala	gat Asp 5175	cta Leu	gga Gly	ggg Gly	tcg Ser	tcg Ser 5180	ccc Pro	ata Ile	gac Asp	ctc Leu	35924
tat Tyr 5185	tct Ser	aga Arg	ctg Leu	tcg Ser	aca Thr 5190	ggg Gly	ctt Leu	ata Ile	agt Ser	ata Ile 5195	cta Leu	aat Asn	tcg Ser	cct Pro	35969
att Ile 5200	att Ile	tct Ser	cat His	ccc Pro	gga Gly 5205	ctt Leu	ttt Phe	gcc Ala	gag Glu	ctt Leu 5210	att Ile	cca Pro	acc Thr	cgt Arg	36014
aca Thr 5215	ggg Gly	tcc Ser	ctg Leu	tct Ser	gaa Glu 5220	cga Arg	ata Ile	cgt Arg	ctt Leu	ctt Leu 5225	tgt Cys	gaa Glu	tta Leu	gtc Val	36059
tcg Ser 5230	gcc Ala	cgg Arg	gag Glu	aca Thr	cgc Arg 5235	tat Tyr	atg Met	cgt Arg	gaa Glu	cac His 5240	acc Thr	gcg Ala	ctt Leu	ggt Val	36104

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tct Ser 5245	agt Ser	gta Val	aag Lys	gct Ala	tta Leu 5250	gag Glu	aat Asn	gca Ala	tta Leu	cgg Arg 5255	tct Ser	acc Thr	cgc Arg	aat Asn	36149
aaa Lys 5260	att Ile	gat Asp	gcc Ala	att Ile	caa Gln 5265	ata Ile	cca Pro	gaa Glu	gtt Val	ccc Pro 5270	cag Gln	gaa Glu	ccc Pro	ccg Pro	36194
gaa Glu 5275	gaa Glu	acc Thr	gac Asp	att Ile	cca Pro 5280	ccc Pro	gaa Glu	gag Glu	tta Leu	att Ile 5285	cgg Arg	cgt Arg	gta Val	tat Tyr	36239
gag Glu 5290	ata Ile	cga Arg	tcc Ser	gaa Glu	gtt Val 5295	aca Thr	atg Met	cta Leu	ttg Leu	acc Thr 5300	tcg Ser	gct Ala	gtt Val	aca Thr	36284
gaa Glu 5305	tac Tyr	ttc Phe	acc Thr	cgc Arg	gga Gly 5310	gtg Val	tta Leu	tat Tyr	agc Ser	aca Thr 5315	cgg Arg	gcc Ala	ttg Leu	atc Ile	36329
gct Ala 5320	gaa Glu	caa Gln	tcc Ser	cct Pro	agg Arg 5325	cgt Arg	ttt Phe	cgg Arg	gtc Val	gcg Ala 5330	acc Thr	gca Ala	agt Ser	acg Thr	36374
gca Ala 5335	ccc Pro	att Ile	caa Gln	cgg Arg	ctt Leu 5340	tta Leu	gat Asp	tct Ser	ctt Leu	ccg Pro 5345	gaa Glu	ttc Phe	gac Asp	gct Ala	36419
aaa Lys 5350	tta Leu	acg Thr	gca Ala	atc Ile	ata Ile 5355	tcg Ser	tcc Ser	ctg Leu	tct Ser	ata Ile 5360	cac His	cct Pro	cct Pro	cct Pro	36464
gag Glu 5365	act Thr	ata Ile	caa Gln	aat Asn	ctc Leu 5370	ccc Pro	gtc Val	gta Val	tct Ser	ctg Leu 5375	tta Leu	aaa Lys	gag Glu	ctt Leu	36509
att Ile 5380	aaa Lys	gaa Glu	ggg Gly	gaa Glu	gat Asp 5385	tta Leu	aac Asn	aca Thr	gac Asp	acg Thr 5390	gct Ala	ctc Leu	gta Val	tcg Ser	36554
tgg Trp 5395	tta Leu	tct Ser	gta Val	gtc Val	ggg Gly 5400	gaa Glu	gct Ala	caa Gln	acc Thr	gca Ala 5405	ggg Gly	tac Tyr	tta Leu	tcc Ser	36599
aga Arg 5410	cga Arg	gag Glu	ttc Phe	gat Asp	gaa Glu 5415	tta Leu	tca Ser	cgt Arg	aca Thr	att Ile 5420	aaa Lys	acc Thr	att Ile	aat Asn	36644
aca Thr 5425	cgc Arg	gca Ala	acg Thr	caa Gln	cgg Arg 5430	gct Ala	tcc Ser	gcg Ala	gaa Glu	gca Ala 5435	gag Glu	ttg Leu	tct Ser	tgc Cys	36689
ttt Phe 5440	aat Asn	acg Thr	cta Leu	agc Ser	gcg Ala 5445	gcc Ala	gta Val	gac Asp	caa Gln	gcc Ala 5450	gta Val	aag Lys	gac Asp	tat Tyr	36734
gaa Glu 5455	aca Thr	tat Tyr	aac Asn	aat Asn	ggg Gly 5460	gag Glu	gtc Val	aag Lys	tat Tyr	cct Pro 5465	gaa Glu	ata Ile	aca Thr	cgg Arg	36779
gat Asp 5470	gat Asp	tta Leu	tta Leu	gca Ala	aca Thr 5475	att Ile	gta Val	cgt Arg	gct Ala	aca Thr 5480	gac Asp	gat Asp	ttg Leu	gtg Val	36824

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cga Arg 5485	cag Gln 5485	ata Ile 5485	aaa Lys 5485	att Ile 5485	tta Leu 5490	agt Ser 5490	gat Asp 5490	cca Pro 5490	atg Met 5490	atc Ile 5495	caa Gln 5495	tcc Ser 5495	ggt Gly 5495	tta Leu 5495	36869
caa Gln 5500	cct Pro 5500	tcg Ser 5500	att Ile 5500	aaa Lys 5500	aga Arg 5505	cga Arg 5505	ttg Leu 5505	gaa Glu 5505	aca Thr 5505	agg Arg 5510	ctt Leu 5510	aaa Lys 5510	gag Glu 5510	ggt Val 5510	36914
cag Gln 5515	acg Thr 5515	tat Tyr 5515	gca Ala 5515	aac Asn 5515	gag Glu 5520	gcc Ala 5520	cga Arg 5520	acc Thr 5520	aca Thr 5520	cag Gln 5525	gac Asp 5525	aca Thr 5525	ata Ile 5525	aag Lys 5525	36959
agt Ser 5530	cga Arg 5530	aaa Lys 5530	cag Gln 5530	gcg Ala 5530	gca Ala 5535	tat Tyr 5535	aat Asn 5535	aaa Lys 5535	ctc Leu 5535	ggg Gly 5540	ggg Gly 5540	tta Leu 5540	ctt Leu 5540	cgc Arg 5540	37004
ccg Pro 5545	gta Val 5545	acc Thr 5545	ggt Gly 5545	ttt Phe 5545	gtg Val 5550	gga Gly 5550	ctt Leu 5550	agg Arg 5550	gct Ala 5555	gca Ala 5555	gta Val 5555	gat Asp 5555	tta Leu 5555	tta Leu 5555	37049
ccg Pro 5560	gaa Glu 5560	ctt Leu 5560	gct Ala 5560	tct Ser 5560	gag Glu 5565	tta Leu 5565	gat Asp 5565	gtc Val 5565	caa Gln 5565	gga Gly 5570	gcc Ala 5570	ctg Leu 5570	gta Val 5570	aat Asn 5570	37094
ctc Leu 5575	agg Arg 5575	acc Thr 5575	aaa Lys 5575	gtc Val 5575	tta Leu 5580	gag Glu 5580	gcg Ala 5580	ccg Pro 5580	gta Val 5580	gag Glu 5585	atc Ile 5585	cgt Arg 5585	tct Ser 5585	caa Gln 5585	37139
ctt Leu 5590	acg Thr 5590	ggt Gly 5590	gat Asp 5590	ttc Phe 5590	tgg Trp 5595	gcg Ala 5595	tta Leu 5595	ttt Phe 5595	aac Asn 5595	caa Gln 5600	tat Tyr 5600	cga Arg 5600	gac Asp 5600	att Ile 5600	37184
tta Leu 5605	gaa Glu 5605	cat His 5605	ccc Pro 5605	gga Gly 5605	aac Asn 5610	gca Ala 5610	cgc Arg 5610	aca Thr 5610	tct Ser 5610	gtc Val 5615	tta Leu 5615	gga Gly 5615	gga Gly 5615	ctg Leu 5615	37229
gga Gly 5620	gct Ala 5620	tgt Cys 5620	ttt Phe 5620	aca Thr 5620	gct Ala 5625	att Ile 5625	atc Ile 5625	gaa Glu 5625	att Ile 5625	gtg Val 5630	ccg Pro 5630	ata Ile 5630	cct Pro 5630	acg Thr 5630	37274
gag Glu 5635	tat Tyr 5635	aga Arg 5635	cca Pro 5635	tca Ser 5635	ttg Leu 5640	ctt Leu 5640	gcg Ala 5640	ttt Phe 5640	ttt Phe 5640	ggt Gly 5645	gac Asp 5645	gtg Val 5645	gca Ala 5645	gat Asp 5645	37319
gtg Val 5650	ctt Leu 5650	gca Ala 5650	tcc Ser 5650	gac Asp 5650	atc Ile 5655	gcg Ala 5655	acc Thr 5655	gta Val 5655	tct Ser 5655	act Thr 5660	aac Asn 5660	ccg Pro 5660	gaa Glu 5660	agt Ser 5660	37364
gag Glu 5665	tcc Ser 5665	gcc Ala 5665	ata Ile 5665	aac Asn 5665	gct Ala 5670	gtt Val 5670	gtt Val 5670	gca Ala 5670	act Thr 5670	ctt Leu 5675	agt Ser 5675	aaa Lys 5675	gcg Ala 5675	acg Thr 5675	37409
tta Leu 5680	gtt Val 5680	tca Ser 5680	tct Ser 5680	aca Thr 5680	gtg Val 5685	cca Pro 5685	gcc Ala 5685	tta Leu 5685	tcc Ser 5685	ttt Phe 5690	gtg Val 5690	ttg Leu 5690	tcg Ser 5690	tta Leu 5690	37454
tat Tyr 5695	aaa Lys 5695	aaa Lys 5695	tat Tyr 5695	cag Gln 5695	gct Ala 5700	tta Leu 5700	caa Gln 5700	caa Gln 5700	gaa Glu 5700	att Ile 5705	acg Thr 5705	aat Asn 5705	acc Thr 5705	cat His 5705	37499
aag Lys 5705	ttg Leu 5705	act Thr 5705	gaa Glu 5705	tta Leu 5705	caa Gln 5705	aaa Lys 5705	caa Gln 5705	ctt Leu 5705	gga Gly 5705	gat Asp 5705	gac Asp 5705	ttc Phe 5705	tcc Ser 5705	acc Thr 5705	37544

5720

cta Leu 5725	gct Ala	gtc Val	tca Ser	tct Ser	gga Gly 5730	cac His	ttg Leu	aag Lys	ttt Phe	ata Ile 5735	tca Ser	tct Ser	tca Ser	aat Asn	37589
gta Val 5740	gat Asp	gat Asp	tat Tyr	gaa Glu	ata Ile 5745	aac Asn	gat Asp	gcg Ala	ata Ile	tta Leu 5750	tca Ser	ata Ile	caa Gln	aca Thr	37634
aat Asn 5755	gtg Val	cac His	gcc Ala	cta Leu	atg Met 5760	gat Asp	acg Thr	ggt Val	aaa Lys	ctt Leu 5765	gtt Val	gaa Glu	gtt Val	gaa Glu	37679
ctg Leu 5770	caa Gln	aag Lys	cta Leu	ccc Pro	ccc Pro 5775	cat His	tgt Cys	att Ile	gct Ala	ggg Gly 5780	aca Thr	tct Ser	acc Thr	tta Leu	37724
tct Ser 5785	cga Arg	gta Val	gta Val	aag Lys	gat Asp 5790	ctt Leu	cat His	aaa Lys	ctc Leu	gtc Val 5795	aca Thr	atg Met	gca Ala	cat His	37769
gag Glu 5800	aag Lys	aag Lys	gaa Glu	cag Gln	gca Ala 5805	aaa Lys	gtg Val	tta Leu	att Ile	acc Thr 5810	gat Asp	tgt Cys	gaa Glu	cgt Arg	37814
gca Ala 5815	cat His	aaa Lys	caa Gln	caa Gln	acg Thr 5820	act Thr	cgg Arg	ggt Val	ttg Leu	tat Tyr 5825	gag Glu	cgt Arg	tggt Trp	aca Thr	37859
cgt Arg 5830	gat Asp	att Ile	ata Ile	gca Ala	tgt Cys 5835	ctg Leu	gag Glu	gca Ala	atg Met	gaa Glu 5840	acg Thr	cgc Arg	cat His	ata Ile	37904
ttt Phe 5845	aac Asn	ggg Gly	aca Thr	gaa Glu	ctg Leu 5850	gca Ala	cgg Arg	ttg Leu	cga Arg	gat Asp 5855	atg Met	gcc Ala	gct Ala	gcg Ala	37949
gga Gly 5860	ggg Gly	ttt Phe	gat Asp	ata Ile	cac His 5865	gca Ala	ggt Val	tac Tyr	cca Pro	caa Gln 5870	gca Ala	cgt Arg	cag Gln	gtt Val	37994
gta Val 5875	gcg Ala	gca Ala	tgt Cys	gaa Glu	act Thr 5880	aca Thr	gcc Ala	ggt Val	acg Thr	gca Ala 5885	tta Leu	gat Asp	act Thr	gtg Val	38039
ttt Phe 5890	cgc Arg	cac His	aat Asn	cca Pro	tat Tyr 5895	acc Thr	ccc Pro	gaa Glu	aat Asn	aca Thr 5900	aat Asn	att Ile	cca Pro	cca Pro	38084
cct Pro 5905	ttg Leu	gct Ala	ttg Leu	tta Leu	aga Arg 5910	ggg Gly	tta Leu	aca Thr	tggt Trp	ttt Phe 5915	gat Asp	gat Asp	ttt Phe	tcg Ser	38129
att Ile 5920	acg Thr	gct Ala	ccc Pro	gta Val	ttc Phe 5925	acc Thr	ggt Val	atg Met	ttt Phe	cca Pro 5930	ggt Gly	ggt Val	agt Ser	att Ile	38174
gag Glu 5935	gga Gly	ctc Leu	ctt Leu	ctg Leu	ctt Leu 5940	atg Met	cgt Arg	att Ile	cgc Arg	gcg Ala 5945	ggt Val	gtg Val	tta Leu	tta Leu	38219
tcc	gcc	gat	acg	tct	att	aat	gga	ata	cct	aac	tac	cga	gat	atg	38264

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Ser 5950	Ala	Asp	Thr	Ser	Ile 5955	Asn	Gly	Ile	Pro	Asn 5960	Tyr	Arg	Asp	Met	
ata Ile 5965	tta Leu	cga Arg	acc Thr	tcg Ser	ggg Gly 5970	gat Asp	cta Leu	tta Leu	caa Gln	ata Ile 5975	ccc Pro	gca Ala	ttg Leu	gct Ala	38309
ggg Gly 5980	tat Tyr	gtt Val	gat Asp	ttt Phe	tac Tyr 5985	aca Thr	cgg Arg	tct Ser	tat Tyr	gat Asp 5990	cag Gln	ttt Phe	ata Ile	acc Thr	38354
gaa Glu 5995	agt Ser	gta Val	acg Thr	tta Leu	agt Ser 6000	gaa Glu	ctt Leu	aga Arg	gca Ala	gac Asp 6005	atc Ile	aga Arg	cag Gln	gct Ala	38399
gcc Ala 6010	ggg Gly	gct Ala	aaa Lys	ctt Leu	aca Thr 6015	gaa Glu	gca Ala	aat Asn	aag Lys	gct Ala 6020	ttg Leu	gag Glu	gaa Glu	gta Val	38444
act Thr 6025	cat His	gtt Val	cgg Arg	gca Ala	cac His 6030	gaa Glu	acg Thr	gct Ala	aaa Lys	ctt Leu 6035	gca Ala	ctt Leu	aaa Lys	gaa Glu	38489
ggt Gly 6040	gtc Val	ttc Phe	att Ile	aca Thr	tta Leu 6045	cca Pro	agc Ser	gaa Glu	ggt Gly	tta Leu 6050	ttg Leu	att Ile	cgg Arg	gct Ala	38534
ata Ile 6055	gag Glu	tat Tyr	ttt Phe	aca Thr	act Thr 6060	ttc Phe	gat Asp	cat His	aaa Lys	cga Arg 6065	ttt Phe	ata Ile	gga Gly	acg Thr	38579
gca Ala 6070	tat Tyr	gaa Glu	aga Arg	gtt Val	tta Leu 6075	caa Gln	aca Thr	atg Met	gta Val	gac Asp 6080	cgc Arg	gat Asp	cta Leu	aag Lys	38624
gag Glu 6085	gcc Ala	aac Asn	gca Ala	gag Glu	ctt Leu 6090	gca Ala	cag Gln	ttt Phe	cgt Arg	atg Met 6095	gtg Val	tgt Cys	cag Gln	gca Ala	38669
aca Thr 6100	aag Lys	aac Asn	cgt Arg	gca Ala	ata Ile 6105	caa Gln	att Ile	tta Leu	caa Gln	aac Asn 6110	att Ile	gtt Val	gat Asp	acg Thr	38714
gcc Ala 6115	aat Asn	gcc Ala	act Thr	gag Glu	caa Gln 6120	caa Gln	gaa Glu	gac Asp	gtg Val	gat Asp 6125	ttc Phe	act Thr	aac Asn	ctg Leu	38759
aag Lys 6130	acg Thr	tta Leu	tta Leu	aaa Lys	cta Leu 6135	acc Thr	ccc Pro	cct Pro	ccc Pro	aaa Lys 6140	aca Thr	att Ile	gca Ala	ttg Leu	38804
gcc Ala 6145	att Ile	gat Asp	aga Arg	tct Ser	act Thr 6150	tcc Ser	gtt Val	cag Gln	gac Asp	att Ile 6155	gtc Val	acg Thr	cag Gln	ttt Phe	38849
gca Ala 6160	ttg Leu	ctg Leu	tta Leu	ggg Gly	cgt Arg 6165	ctg Leu	gaa Glu	gaa Glu	gaa Glu	act Thr 6170	ggg Gly	acg Thr	ttg Leu	gac Asp	38894
att Ile 6175	cag Gln	gcg Ala	gtt Val	gac Asp	tgg Trp 6180	atg Met	tac Tyr	caa Gln	gct Ala	cgc Arg 6185	aat Asn	att Ile	att Ile	gac Asp	38939

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tcc Ser 6190	cat His	cca Pro	cta Leu	agt Ser	gtg Val 6195	cgt Arg	ata Ile	gac Asp	ggg Gly	acc Thr 6200	ggc Gly	ccc Pro	ctg Leu	cat His	38984
act Thr 6205	tat Tyr	aaa Lys	gat Asp	agg Arg	gtg Val 6210	gat Asp	aaa Lys	ctt Leu	tat Tyr	gcg Ala 6215	tta Leu	cga Arg	act Thr	aaa Lys	39029
tta Leu 6220	gat Asp	ctc Leu	cta Leu	cga Arg	cga Arg 6225	cga Arg	ata Ile	gaa Glu	acc Thr	ggg Gly 6230	gag Glu	gtt Val	acg Thr	tgg Trp	39074
gac Asp 6235	gat Asp	gca Ala	tgg Trp	aca Thr	aca Thr 6240	ttt Phe	aaa Lys	aga Arg	gaa Glu	acg Thr 6245	ggg Gly	gat Asp	atg Met	ttg Leu	39119
gca Ala 6250	tcg Ser	ggg Gly	gac Asp	acg Thr	tac Tyr 6255	gct Ala	act Thr	tcc Ser	gta Val	gat Asp 6260	agt Ser	ata Ile	aag Lys	gca Ala	39164
ctc Leu 6265	cag Gln	gca Ala	tcg Ser	gcg Ala	tct Ser 6270	gtg Val	gtt Val	gac Asp	atg Met	ctt Leu 6275	tgt Cys	tcc Ser	gaa Glu	ccc Pro	39209
gaa Glu 6280	ttt Phe	ttt Phe	tta Leu	ttg Leu	cct Pro 6285	gtg Val	gaa Glu	acg Thr	aaa Lys	aac Asn 6290	cgt Arg	ctc Leu	caa Gln	aaa Lys	39254
aag Lys 6295	caa Gln	cag Gln	gaa Glu	cgt Arg	aaa Lys 6300	acg Thr	gcg Ala	ttg Leu	gat Asp	gtt Val 6305	gtg Val	ttg Leu	caa Gln	aaa Lys	39299
caa Gln 6310	aga Arg	cag Gln	ttt Phe	gaa Glu	gag Glu 6315	acc Thr	gcg Ala	tct Ser	cgc Arg	tta Leu 6320	cga Arg	gct Ala	tta Leu	att Ile	39344
gaa Glu 6325	cgt Arg	att Ile	cca Pro	acg Thr	gag Glu 6330	agt Ser	gac Asp	cat His	gac Asp	gtt Val 6335	ctt Leu	cgt Arg	atg Met	tta Leu	39389
tta Leu 6340	cgt Arg	gat Asp	ttc Phe	gat Asp	caa Gln 6345	ttt Phe	aca Thr	cat His	ttg Leu	cct Pro 6350	ata Ile	tgg Trp	ata Ile	aaa Lys	39434
aca Thr 6355	cag Gln	tat Tyr	atg Met	aca Thr	ttt Phe 6360	cga Arg	aat Asn	tta Leu	ctc Leu	atg Met 6365	gta Val	cgg Arg	tta Leu	ggc Gly	39479
ttg Leu 6370	tat Tyr	gca Ala	agt Ser	tat Tyr	gct Ala 6375	gag Glu	att Ile	ttt Phe	cca Pro	ccc Pro 6380	gcg Ala	tct Ser	cca Pro	aac Asn	39524
gga Gly 6385	gta Val	ttt Phe	gct Ala	cct Pro	att Ile 6390	ccc Pro	gcc Ala	atg Met	tcg Ser	ggg Gly 6395	gta Val	tgt Cys	cta Leu	gaa Glu	39569
gac Asp 6400	caa Gln	tcc Ser	cga Arg	tgc Cys	att Ile 6405	cgc Arg	gcg Ala	cgg Arg	gtg Val	gcc Ala 6410	gcg Ala	ttt Phe	atg Met	ggg Gly	39614
gag Glu 6415	gcg Ala	tct Ser	gtg Val	gtg Val	caa Gln 6420	acg Thr	ttt Phe	agg Arg	gaa Glu	gcc Ala 6425	aga Arg	tct Ser	tct Ser	ata Ile	39659

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gac Asp 6430	gct Ala	ttg Leu	ttt Phe	gga Gly	aaa Lys 6435	aat Asn	tta Leu	acc Thr	ttt Phe	tac Tyr 6440	ttg Leu	gat Asp	act Thr	gat Asp	39704
ggg Gly 6445	gtt Val	cca Pro	ctt Leu	cga Arg	tat Tyr 6450	aga Arg	gtg Val	tgt Cys	tat Tyr	aaa Lys 6455	tca Ser	gtt Val	ggg Gly	gtt Val	39749
aaa Lys 6460	ctt Leu	gga Gly	acc Thr	atg Met	cta Leu 6465	tgc Cys	agt Ser	cag Gln	ggt Gly	gga Gly 6470	tta Leu	tct Ser	tta Leu	cga Arg	39794
ccg Pro 6475	gca Ala	ctt Leu	ccc Pro	gat Asp	gaa Glu 6480	ggt Gly	att Ile	gtg Val	gaa Glu	gaa Glu 6485	act Thr	aca Thr	cta Leu	tcg Ser	39839
gca Ala 6490	tta Leu	cgc Arg	gtg Val	gcc Ala	aat Asn 6495	gag Glu	gtc Val	aat Asn	gag Glu	cta Leu 6500	cgc Arg	att Ile	gaa Glu	tac Tyr	39884
gaa Glu 6505	tcc Ser	gct Ala	ata Ile	aaa Lys	tcc Ser 6510	ggg Gly	ttt Phe	tct Ser	gcc Ala	ttt Phe 6515	tcc Ser	acc Thr	ttt Phe	gtt Val	39929
agg Arg 6520	cat His	cgc Arg	cac His	gcc Ala	gaa Glu 6525	tgg Trp	ggt Gly	aaa Lys	acc Thr	aac Asn 6530	gca Ala	cgc Arg	aga Arg	gcc Ala	39974
att Ile 6535	gca Ala	gag Glu	ata Ile	tac Tyr	gcc Ala 6540	ggc Gly	ctt Leu	ata Ile	aca Thr	aca Thr 6545	aca Thr	ttg Leu	aca Thr	cga Arg	40019
caa Gln 6550	tac Tyr	ggg Gly	gtt Val	cat His	tgg Trp 6555	gac Asp	aag Lys	ctt Leu	att Ile	tat Tyr 6560	tct Ser	ttt Phe	gaa Glu	aaa Lys	40064
cac His 6565	cac His	cta Leu	act Thr	tct Ser	gta Val 6570	atg Met	ggc Gly	aat Asn	gga Gly	cta Leu 6575	act Thr	aaa Lys	cca Pro	atc Ile	40109
cag Gln 6580	aga Arg	agg Arg	ggt Gly	gat Asp	gta Val 6585	cgc Arg	gta Val	tta Leu	gag Glu	tta Leu 6590	acc Thr	cta Leu	tct Ser	gat Asp	40154
att Ile 6595	gta Val	act Thr	att Ile	ttg Leu	gtt Val 6600	gcc Ala	aca Thr	acc Thr	ccg Pro	gta Val 6605	cat His	ctt Leu	ctc Leu	aat Asn	40199
ttt Phe 6610	gct Ala	aga Arg	ttg Leu	gat Asp	tta Leu 6615	att Ile	aaa Lys	cag Gln	cat His	gag Glu 6620	tat Tyr	atg Met	gcc Ala	cgt Arg	40244
acc Thr 6625	ctc Leu	aga Arg	ccc Pro	gta Val	atc Ile 6630	gag Glu	gcc Ala	gca Ala	ttt Phe	aga Arg 6635	ggt Gly	cgt Arg	tta Leu	ctc Leu	40289
gtt Val 6640	cgc Arg	tca Ser	ttg Leu	gat Asp	gga Gly 6645	gac Asp	ccg Pro	aaa Lys	ggc Gly	aat Asn 6650	gcc Ala	cgg Arg	gcc Ala	ttt Phe	40334
ttt Phe	aat Asn	gcc Ala	gcc Ala	cca Pro	tcc Ser	aaa Lys	cat His	aaa Lys	ctc Leu	ccg Pro	tta Leu	gct Ala	ctt Leu	gga Gly	40379

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6655					6660					6665							
tca Ser 6670	aac Asn	caa Gln	gat Asp	cct Pro	acc Thr 6675	ggc Gly	ggg Gly	aga Arg	ata Ile	ttt Phe 6680	gca Ala	ttt Phe	cgg Arg	atg Met			40424
gca Ala 6685	gat Asp	tgg Trp	aaa Lys	ctt Leu	gtt Val 6690	aaa Lys	atg Met	cca Pro	cag Gln	aaa Lys 6695	ata Ile	acg Thr	gat Asp	cct Pro			40469
ttt Phe 6700	gcg Ala	cca Pro	tgg Trp	caa Gln	ctt Leu 6705	tcc Ser	ccc Pro	ccc Pro	ccc Pro	ggg Gly 6710	gta Val	aag Lys	gcc Ala	aat Asn			40514
gtc Val 6715	gat Asp	gca Ala	gtt Val	acc Thr	cgt Arg 6720	ata Ile	atg Met	gca Ala	aca Thr	gat Asp 6725	cgt Arg	ctt Leu	gcg Ala	acc Thr			40559
att Ile 6730	act Thr	gta Val	ctt Leu	ggg Gly	cgc Arg 6735	atg Met	tgt Cys	ctc Leu	ccg Pro	cca Pro 6740	att Ile	tcc Ser	tta Leu	gtg Val			40604
tca Ser 6745	atg Met	tgg Trp	aat Asn	acg Thr	ctg Leu 6750	caa Gln	ccg Pro	gag Glu	gaa Glu	ttc Phe 6755	gca Ala	tac Tyr	aga Arg	aca Thr			40649
caa Gln 6760	gat Asp	gat Asp	gtg Val	gac Asp	att Ile 6765	ata Ile	gtt Val	gat Asp	gcg Ala	aga Arg 6770	ctg Leu	gat Asp	ttg Leu	tca Ser			40694
tcc Ser 6775	acg Thr	ctt Leu	aat Asn	gca Ala	aga Arg 6780	ttt Phe	gat Asp	acc Thr	gct Ala	ccc Pro 6785	agc Ser	aat Asn	acc Thr	acg Thr			40739
tta Leu 6790	gag Glu	tgg Trp	aat Asn	aca Thr	gac Asp 6795	cgt Arg	aaa Lys	gta Val	att Ile	aca Thr 6800	gat Asp	gct Ala	tat Tyr	att Ile			40784
caa Gln 6805	acc Thr	ggg Gly	gca Ala	acg Thr	aca Thr 6810	gtt Val	ttt Phe	aca Thr	gta Val	acg Thr 6815	ggg Gly	gcg Ala	gca Ala	cca Pro			40829
act Thr 6820	cac His	gtt Val	tct Ser	aat Asn	gta Val 6825	aca Thr	gcg Ala	ttt Phe	gac Asp	ata Ile 6830	gca Ala	act Thr	acg Thr	gct Ala			40874
att Ile 6835	tta Leu	ttt Phe	ggg Gly	gct Ala	cct Pro 6840	ttg Leu	gtt Val	att Ile	gcc Ala	atg Met 6845	gaa Glu	ctt Leu	aca Thr	tcc Ser			40919
gtt Val 6850	ttt Phe	tca Ser	caa Gln	aat Asn	tcc Ser 6855	gga Gly	ctt Leu	act Thr	ttg Leu	ggg Gly 6860	tta Leu	aaa Lys	tta Leu	ttc Phe			40964
gat Asp 6865	tcc Ser	cgg Arg	cat His	atg Met	gct Ala 6870	aca Thr	gat Asp	tcg Ser	ggt Gly	ata Ile 6875	tcc Ser	tca Ser	gcc Ala	gta Val			41009
tct Ser 6880	ccc Pro	gat Asp	att Ile	gtt Val	tct Ser 6885	tgg Trp	ggg Gly	tta Leu	cgt Arg	tta Leu 6890	ctg Leu	cat His	atg Met	gat Asp			41054
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tgt Cys 6925	tta Leu	ctg Leu	cta Leu	ttg Leu	gac Asp 6930	gaa Glu	cat His	atg Met	aat Asn	ccc Pro 6935	tct Ser	tat Tyr	gtt Val	tta Leu	41189
tgg Trp 6940	gaa Glu	cga Arg	aaa Lys	gac Asp	tcg Ser 6945	att Ile	cca Pro	gct Ala	ccg Pro	gat Asp 6950	tat Tyr	gtg Val	gtc Val	ttt Phe	41234
tgg Trp 6955	ggg Gly	cca Pro	gaa Glu	tct Ser	ctt Leu 6960	att Ile	gat Asp	ttg Leu	ccg Pro	tac Tyr 6965	atc Ile	gac Asp	tcc Ser	gat Asp	41279
gag Glu 6970	gac Asp	tct Ser	ttc Phe	ccc Pro	tcg Ser 6975	tgt Cys	ccc Pro	gat Asp	gat Asp	cca Pro 6980	ttt Phe	tac Tyr	tcg Ser	caa Gln	41324
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act Thr 7000	gat Asp	ttt Phe	tac Tyr	cca Pro	acg Thr 7005	gag Glu	cca Pro	cta Leu	ttt Phe	aag Lys 7010	tct Ser	ccc Pro	gtt Val	caa Gln	41414
gtt Val 7015	gtt Val	aga Arg	agt Ser	tcc Ser	aaa Lys 7020	tgt Cys	aaa Lys	aaa Lys	atg Met	ccc Pro 7025	gtc Val	cgg Arg	ccc Pro	gcg Ala	41459
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aat Asn 7060	ttt Phe	aag Lys	aaa Lys	ccc Pro	caa Gln 7065	agc Ser	gta Val	aaa Lys	aca Thr	acc Thr 7070	ctt Leu	agc Ser	caa Gln	aaa Lys	41594
gat Asp 7075	att Ile	ccc Pro	ttg Leu	tat Tyr	gtg Val 7080	gaa Glu	acc Thr	gaa Glu	tca Ser	gaa Glu 7085	acg Thr	gct Ala	gtg Val	ctt Leu	41639
ata Ile 7090	cct Pro	aag Lys	caa Gln	tta Leu	acc Thr 7095	acc Thr	tcc Ser	att Ile	aaa Lys	aca Thr 7100	acc Thr	gtt Val	tgt Cys	aaa Lys	41684
agt Ser 7105	att Ile	acc Thr	cca Pro	cca Pro	aat Asn 7110	aac Asn	caa Gln	ttg Leu	tcg Ser	gat Asp 7115	tgg Trp	aaa Lys	aat Asn	aat Asn	41729
cca Pro 7120	cag Gln	caa Gln	aac Asn	caa Gln	acg Thr 7125	tta Leu	aac Asn	caa Gln	gcg Ala	ttc Phe 7130	agt Ser	aaa Lys	cca Pro	ata Ile	41774

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ctc Leu 8000	act Thr	acc Thr	agt Ser	cat His	ttc Phe 8005	tat Tyr	cca Pro	tct Ser	gtc Val	ttt Phe 8010	gtc Val	ttt Phe	cac His	gga Gly	51144
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gat Asp 8120	gtt Val	aac Asn	cgt Arg	ctg Leu	gta Val 8125	ccc Pro	gac Asp	cca Pro	ttc Phe	aac Asn 8130	act Thr	cat His	cac His	agg Arg	51504
tct Ser 8135	atc Ile	gga Gly	gag Glu	ggt Gly	ttt Phe 8140	gta Val	tac Tyr	cca Pro	aca Thr	ccc Pro 8145	ttt Phe	tat Tyr	aac Asn	acc Thr	51549
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cct Pro 8195	gac Asp	att Ile	acg Thr	tac Tyr	acg Thr 8200	tat Tyr	ttt Phe	cag Gln	tcc Ser	tct Ser 8205	tca Ser	agt Ser	gga Gly	acc Thr	51729
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gga Gly 8255	att Ile	tac Tyr	gaa Glu	gaa Glu	act Thr 8260	cca Pro	aca Thr	gat Asp	atc Ile	aaa Lys 8265	gaa Glu	tggt Trp	cca Pro	atg Met	51909
ttt Phe 8270	ata Ile	ggc Gly	atg Met	gag Glu	ggc Gly 8275	act Thr	ttg Leu	cca Pro	agg Arg	cta Leu 8280	aac Asn	gct Ala	ctg Leu	ggg Gly	51954
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aga Arg 8435	caa Gln	cgc Arg	atg Met	ccg Pro	cga Arg 8440	ttt Phe	gga Gly	caa Gln	gcc Ala	acc Thr 8445	cgt Arg	caa Gln	cct Pro	att Ile	52449
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caa Gln 8480	acg Thr	gaa Glu	gca Ala	gca Ala	aag Lys 8485	gca Ala	acc Thr	atg Met	cag Gln	gac Asp 8490	act Thr	tat Tyr	agg Arg	gct Ala	52584
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tac Tyr 8825	ctt Leu	ata Ile	aat Asn	acc Thr	tta Leu 8830	act Thr	tct Ser	ata Ile	att Ile	acg Thr 8835	ggg Gly	gcc Ala	agg Arg	cgc Arg	53619		
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acg Thr 8855	tcc Ser	gcc Ala	gcg Ala	gac Asp	ata Ile 8860	gaa Glu	acc Thr	caa Gln	gca Ala	aag Lys 8865	gcg Ala	ctt Leu	ctt Leu	gaa Glu	53709		
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Lys 8870	Thr	Glu	Asn	Leu	Pro 8875	Glu	Leu	Trp	Thr	Thr 8880	Ala	Phe	Thr	Ser	
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cgc Arg 8915	gtc Val	ttt Phe	cag Gln	gca Ala	ggg Gly 8920	aat Asn	tgg Trp	agc Ser	ggg Gly	tta Leu 8925	aac Asn	ggg Gly	ggg Gly	aaa Lys	53889
aat Asn 8930	gta Val	tgc Cys	ccg Pro	cta Leu	ttt Phe 8935	aca Thr	ttt Phe	gat Asp	cgc Arg	act Thr 8940	cgc Arg	cgt Arg	ttt Phe	ata Ile	53934
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tta Leu 9080	aac Asn	att Ile	tca Ser	ggg Gly	tca Ser 9085	aac Asn	att Ile	tca Ser	ggg Gly	tca Ser 9090	act Thr	gtc Val	cct Pro	ggg Gly	54384
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Ile Pro Ile Lys His Gly Asn Ile Thr Met Glu Met Ile	
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Met Glu Leu Asp Ile Asn Arg Thr Leu Leu Val Leu Leu Gly Gln	
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Val Tyr Thr Tyr Ile Phe Gln Val Glu Leu Leu Arg Arg Cys Asp	
9140 9145 9150	
cca agg gtg gcg tgt cgc ttt tta tat cgg tta gcg gct aac tgt	54785
Pro Arg Val Ala Cys Arg Phe Leu Tyr Arg Leu Ala Ala Asn Cys	
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Leu Thr Val Arg Tyr Leu Leu Lys Leu Phe Leu Arg Gly Phe Asn	
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Trp Ala Leu Cys Tyr Val Lys Gly Glu Gly Glu Arg Leu Phe Glu	
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Leu Leu Gln His Phe Lys Thr Arg Phe Val Tyr Gly Glu Thr Lys	
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Lys Thr Cys Gln Tyr His His Glu Leu Ser Leu Thr Thr Tyr Gly	
9245 9250 9255	
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Gly Tyr Val Ser Ser Glu Ile Gln Phe Leu His Asp Ile Glu Asn	
9260 9265 9270	
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Phe Leu Lys Gln Leu Asn Tyr Cys Tyr Ile Ile Thr Ser Ser Arg	
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Glu Ala Leu Asn Thr Leu Glu Thr Val Thr Arg Phe Met Thr Asp	
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Thr Ile Gly Ser Gly Leu Ile Pro Pro Val Glu Leu Phe Asp Pro	
9305 9310 9315	
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Ile	Ile	Arg	Cys	Leu	Pro	Tyr	Ile	Pro	Asp	Val	Pro	Asp	Ile	Lys	
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Arg	Gln	Ser	Ala	Val	Glu	Ala	Leu	Arg	Thr	Leu	Gln	Thr	Lys	Thr	
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Tyr	Glu	Ile	Ala	Ser	Thr	Met	Leu	Asp	Ser	Tyr	Asn	Val	Phe	Lys	
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Phe	Val	Asp	Asn	Leu	Asp	Val	Leu	Asn	Glu	His	Glu	Lys	His	Ala	
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Asn	Glu	Ala	Ala	Leu	Arg	Gln	Leu	Leu	Glu	Arg	Val	Gly	Cys	Glu	
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tgt Cys	gat Asp	ctg Leu 9575	aac Asn	gat Asp	gat Asp	agt Ser	agc Ser 9580	ata Ile	act Thr	ttt Phe	gct Ala	gtt Val 9585	cat His	gga Gly	56045
tgg Trp	gaa Glu	aac Asn 9590	ctg Leu	tta Leu	tcc Ser	aaa Lys	gca Ala 9595	aaa Lys	att Ile	gac Asp	gct Ala	gcg Ala 9600	gaa Glu	aga Arg	56090
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ctc Leu	agg Arg	gta Val 9635	aac Asn	gtt Val	tat Tyr	gga Gly	gag Glu 9640	gcc Ala	tta Leu	ttg Leu	cag Gln	aca Thr 9645	ttt Phe	gtt Val	56225
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gcc Ala	ttt Phe	gat Asp 9680	gca Ala	cat His	aga Arg	ttt Phe	ata Ile 9685	agg Arg	aat Asn	acc Thr	tta Leu	gtt Val 9690	cga Arg	cat His	56360
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gca Ala	caa Gln	ccc Pro 9725	cct Pro	aac Asn	acc Thr	gcc Ala	tta Leu 9730	ttt Phe	ttt Phe	acc Thr	gtg Val	gaa Glu 9735	aac Asn	gtt Val	56495
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gcc Ala	tgg Trp	aaa Lys 9785	tat Tyr	att Ile	agg Arg	gag Glu	ctt Leu 9790	gtg Val	ttt Phe	gca Ala	acc Thr	aca Thr 9795	cta Leu	ttc Phe	56675

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Arg Leu Gly Lys Asp Pro Arg Gly Cys Thr Ser Gln Pro Lys Gly	
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Ile Gly Ser Ser His Gly Pro Leu Asp Gly Ile Tyr Leu Thr Tyr	
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Ser Leu Leu Tyr Thr Leu Met Gln Arg Leu Ala Pro Asp Ser Thr	
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Asp Pro Ala Phe Ser	
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Ser Phe Tyr Glu Ser Leu Gln Val Glu Pro Thr Gln Ser Glu Asp	
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Ile Thr Arg Ser Ala His Leu Gly Asp Gly Asp Glu Ile Arg Glu	
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Ala Ile His Lys Ser Gln Asp Ala Glu Thr Lys Pro Thr Phe Tyr	
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Thr Arg Thr Cys Pro Asp Tyr His Leu Gly Lys Asn Phe Thr Glu	
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Gly Ile Ala Val Val Tyr Lys Glu Asn Ile Ala Ala Tyr Lys Phe	
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Ala Gly Ser Ser Tyr Thr Gln Ile Thr Asn Arg Tyr Ala Asp Arg	

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ggc Gly 10040	aag Lys	tgt Cys	tct Ser	tct Ser	aaa Lys 10045	gca Ala	acg Thr	tac Tyr	gta Val	cga Arg 10050	aat Asn	aac Asn	cac His	aaa Lys			57493
gtt Val 10055	gaa Glu	gcc Ala	ttt Phe	aat Asn	gag Glu 10060	gat Asp	aaa Lys	aat Asn	cca Pro	cag Gln 10065	gat Asp	atg Met	cct Pro	cta Leu			57538
atc Ile 10070	gca Ala	tca Ser	aaa Lys	tat Tyr	aat Asn 10075	tct Ser	gtg Val	gga Gly	tcc Ser	aaa Lys 10080	gca Ala	tggt Trp	cat His	act Thr			57583
acc Thr 10085	aat Asn	gac Asp	acg Thr	tac Tyr	atg Met 10090	gtt Val	gcc Ala	gga Gly	acc Thr	ccc Pro 10095	gga Gly	aca Thr	tat Tyr	agg Arg			57628
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ttt Phe 10220	aca Thr	atg Met	aaa Lys	aca Thr	ctt Leu 10225	tct Ser	acc Thr	acg Thr	ttt Phe	ata Ile 10230	agt Ser	gaa Glu	aca Thr	aac Asn			58033
gag Glu 10235	ttt Phe	aat Asn	ctt Leu	aac Asn	caa Gln 10240	atc Ile	cat His	ctc Leu	agt Ser	caa Gln 10245	tgt Cys	gta Val	aag Lys	gag Glu			58078
gaa	gcc	cgg	gct	att	att	aac	cgg	atc	tat	aca	acc	aga	tac	aac			58123

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gcc Ala 10295	cgt Arg	ctc Leu	tat Tyr	ctc Leu	caa Gln 10300	gaa Glu	ttg Leu	gtc Val	cgt Arg	gaa Glu 10305	aac Asn	act Thr	aat Asn	cat His	58258
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gtg Val 10325	cca Pro	gtt Val	gag Glu	ttg Leu	cgt Arg 10330	gcc Ala	aat Asn	aga Arg	aca Thr	ata Ile 10335	aca Thr	acc Thr	acc Thr	tca Ser	58348
tcg Ser 10340	gtg Val	gaa Glu	ttt Phe	gct Ala	atg Met 10345	ctc Leu	cag Gln	ttt Phe	aca Thr	tat Tyr 10350	gac Asp	cac His	att Ile	caa Gln	58393
gag Glu 10355	cat His	gtt Val	aat Asn	gaa Glu	atg Met 10360	ttg Leu	gca Ala	cgt Arg	atc Ile	tcc Ser 10365	tcg Ser	tcg Ser	tgg Trp	tgc Cys	58438
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aca Thr 10460	gat Asp	aac Asn	gag Glu	tta Leu	att Ile 10465	atg Met	tcc Ser	aga Arg	gat Asp	ctg Leu 10470	tta Leu	gaa Glu	cca Pro	tgc Cys	58753
gtg Val 10475	gct Ala	aat Asn	cac His	aag Lys	cga Arg 10480	tat Tyr	ttt Phe	cta Leu	ttt Phe	ggg Gly 10485	cat His	cac His	tac Tyr	gta Val	58798

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aaa Lys 10520	gat Asp	aga Arg	gag Glu	ttt Phe	atg Met 10525	ccg Pro	ctg Leu	caa Gln	gta Val	tat Tyr 10530	aca Thr	aga Arg	gac Asp	gag Glu	58933
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tct Ser 10715	gcg Ala	gct Ala	gag Glu	cgc Arg	caa Gln 10720	gaa Glu	tct Ser	aaa Lys	gcc Ala	cgc Arg 10725	aaa Lys	aaa Lys	aat Asn	aag Lys	59518

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tcc Ser 10780	aaa Lys	cag Gln	tgc Cys	gct Ala	tca Ser 10785	agt Ser	ctc Leu	aat Asn	gaa Glu	aca Thr 10790	gta Val	aaa Lys	gat Asp	tct Ser	59867
ccc Pro 10795	ccc Pro	gcg Ala	att Ile	tat Tyr	gaa Glu 10800	gat Asp	agg Arg	tta Leu	gaa Glu	cac His 10805	acg Thr	ccg Pro	gta Val	caa Gln	59912
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Ala Ala Glu Glu Phe Leu His His Phe Ala Ile Thr Pro Asn Arg	
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Gly Glu Asp Ala Ile Cys Gly Ile Tyr Gly Thr Gln Thr Arg Arg	
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Leu Asn Gly Asp Val Ser Pro Glu Asp Ala Gln Arg Leu Thr Ala	
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His Phe Gln Ser Leu Phe Cys Ser Pro His Ala Ile Met His Ala	
10995 11000 11005	
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Lys Ile Ser Ala Leu Met Asp Thr Ser Thr Ser Asp Leu Val Gln	
11010 11015 11020	
gta aat aag gag ccg tat aaa att atg tta tcc gac cga cac cca	65202
Val Asn Lys Glu Pro Tyr Lys Ile Met Leu Ser Asp Arg His Pro	
11025 11030 11035	
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Ile Ala Ser Thr Ile Cys Phe Pro Leu Ser Arg Tyr Leu Val Gly	
11040 11045 11050	
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Asp Met Ser Pro Ala	Ala Leu Pro Gly Leu	Leu Phe Thr Leu Pro	
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Ala Glu Pro Pro Gly	Thr Asn Leu Val Val	Cys Thr Val Ser Leu	
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Pro Ser His Leu Ser	Arg Val Ser Lys Arg	Ala Arg Pro Gly Glu	
11085	11090	11095	
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Thr Val Asn Leu Pro	Phe Val Met Val Leu	Arg Asn Val Tyr Ile	
11100	11105	11110	
atg ctt att aat aca	att ata ttt ctt aaa	act aac aac tgg cac	65472
Met Leu Ile Asn Thr	Ile Ile Phe Leu Lys	Thr Asn Asn Trp His	
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Ala Gly Trp Asn Thr	Leu Ser Phe Cys Asn	Asp Val Phe Lys Gln	
11130	11135	11140	
aaa tta caa aaa tcc	gag tgt ata aaa cta	cgc gaa gta cct ggg	65562
Lys Leu Gln Lys Ser	Glu Cys Ile Lys Leu	Arg Glu Val Pro Gly	
11145	11150	11155	
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Ile Glu Asp Thr Leu	Phe Ala Val Leu Lys	Leu Pro Glu Leu Cys	
11160	11165	11170	
gga gag ttt gga aat	att ctg ccg tta tgg	gca tgg gga atg gag	65652
Gly Glu Phe Gly Asn	Ile Leu Pro Leu Trp	Ala Trp Gly Met Glu	
11175	11180	11185	
acc ctt tca aac tgc	tca cga agc atg tct	ccg ttc gta tta tcg	65697
Thr Leu Ser Asn Cys	Ser Arg Ser Met Ser	Pro Phe Val Leu Ser	
11190	11195	11200	
tta gaa cag aca ccc	cag cat gcg gca caa	gaa cta aaa act ctg	65742
Leu Glu Gln Thr Pro	Gln His Ala Ala Gln	Glu Leu Lys Thr Leu	
11205	11210	11215	
cta ccc cag atg acc	ccg gca aac atg tcc	tcc ggt gca tgg aat	65787
Leu Pro Gln Met Thr	Pro Ala Asn Met Ser	Ser Gly Ala Trp Asn	
11220	11225	11230	
ata ttg aaa gag ctt	gtt aat gcc gtt cag	gac aac act tcc taa	65832
Ile Leu Lys Glu Leu	Val Asn Ala Val Gln	Asp Asn Thr Ser	
11235	11240		
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t atg ttt gcg cta gtt tta	gcg gtg gta att ctt	cct ctt tgg	66115
Met Phe Ala Leu Val Leu	Ala Val Val Ile Leu	Pro Leu Trp	
11245	11250	11255	

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acc Thr	acg Thr 11260	gct Ala	aat Asn	aaa Lys	tct Ser	tac Tyr 11265	gta Val	aca Thr	cca Pro	acc Thr	cct Pro 11270	gcg Ala	act Thr	cgc Arg	66160
tct Ser	atc Ile 11275	gga Gly	cat His	atg Met	tct Ser	gct Ala 11280	ctt Leu	cta Leu	cga Arg	gaa Glu	tat Tyr 11285	tcc Ser	gac Asp	cgt Arg	66205
aat Asn	atg Met 11290	tct Ser	ctg Leu	aaa Lys	tta Leu	gaa Glu 11295	gcc Ala	ttt Phe	tat Tyr	cct Pro	act Thr 11300	ggg Gly	ttc Phe	gat Asp	66250
gaa Glu	gaa Glu 11305	ctc Leu	att Ile	aaa Lys	tca Ser	ctt Leu 11310	cac His	tgg Trp	gga Gly	aat Asn	gat Asp 11315	aga Arg	aaa Lys	cac His	66295
gtt Val	ttc Phe 11320	ttg Leu	gtt Val	att Ile	gtt Val	aag Lys 11325	gtt Val	aac Asn	cct Pro	aca Thr	aca Thr 11330	cac His	gaa Glu	gga Gly	66340
gac Asp	gtc Val 11335	ggg Gly	ctg Leu	gtt Val	ata Ile	ttt Phe 11340	cca Pro	aaa Lys	tac Tyr	ttg Leu	tta Leu 11345	tcg Ser	cca Pro	tac Tyr	66385
cat His	ttc Phe 11350	aaa Lys	gca Ala	gaa Glu	cat His	cga Arg 11355	gca Ala	ccg Pro	ttt Phe	cct Pro	gct Ala 11360	gga Gly	cgt Arg	ttt Phe	66430
gga Gly	ttt Phe 11365	ctt Leu	agt Ser	cac His	cct Pro	gtg Val 11370	aca Thr	ccc Pro	gac Asp	gtg Val	agc Ser 11375	ttc Phe	ttt Phe	gac Asp	66475
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gag Glu	acc Thr 11410	gca Ala	gca Ala	act Thr	gca Ala	gaa Glu 11415	agg Arg	ccg Pro	ttt Phe	ggg Gly	gta Val 11420	agt Ser	ctt Leu	tta Leu	66610
ccc Pro	gct Ala 11425	cgc Arg	cca Pro	aca Thr	gtc Val	ccc Pro 11430	aag Lys	aat Asn	act Thr	att Ile	ctg Leu 11435	gaa Glu	cat His	aaa Lys	66655
gcg Ala	cat His 11440	ttt Phe	gct Ala	aca Thr	tgg Trp	gat Asp 11445	gcc Ala	ctt Leu	gcc Ala	cga Arg	cat His 11450	act Thr	ttt Phe	ttt Phe	66700
tct Ser	gcc Ala 11455	gaa Glu	gca Ala	att Ile	atc Ile	acc Thr 11460	aac Asn	tca Ser	acg Thr	ttg Leu	aga Arg 11465	ata Ile	cac His	gtt Val	66745
ccc Pro	ctt Leu 11470	ttt Phe	ggg Gly	tcg Ser	gta Val	tgg Trp 11475	cca Pro	att Ile	cga Arg	tac Tyr	tgg Trp 11480	gcc Ala	acc Thr	ggg Gly	66790
tcg Ser	gtg Val 11485	ctt Leu	ctc Leu	aca Thr	agc Ser	gac Asp 11490	tcg Ser	ggg Gly	cgt Arg	gtg Val	gaa Glu 11495	gta Val	aat Asn	att Ile	66835

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ccg Pro	ata Ile 11515	gaa Glu	tta Leu	att Ile	gtt Val	gta Val 11520	cca Pro	cat His	aca Thr	gta Val	aaa Lys 11525	ctg Leu	aac Asn	gcg Ala	66925
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gat Asp	atg Met 11560	aat Asn	ttt Phe	tca Ser	aag Lys	cat His 11565	gct Ala	acg Thr	gtc Val	gat Asp	ata Ile 11570	tgc Cys	gca Ala	tat Tyr	67060
ccc Pro	gaa Glu 11575	gag Glu	agt Ser	ttg Leu	gat Asp	tac Tyr 11580	cgc Arg	tat Tyr	cat His	tta Leu	tcc Ser 11585	atg Met	gcc Ala	cac His	67105
acg Thr	gag Glu 11590	gct Ala	ctg Leu	cgg Arg	atg Met	aca Thr 11595	acg Thr	aag Lys	gcg Ala	gat Asp	caa Gln 11600	cat His	gac Asp	ata Ile	67150
aac Asn	gag Glu 11605	gaa Glu	agc Ser	tat Tyr	tac Tyr	cat His 11610	atc Ile	gcc Ala	gca Ala	aga Arg	ata Ile 11615	gcc Ala	aca Thr	tca Ser	67195
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tta Leu	gat Asp 11635	gag Glu	atc Ile	gta Val	gat Asp	gtt Val 11640	cag Gln	tat Tyr	caa Gln	tta Leu	aaa Lys 11645	ttc Phe	ctt Leu	aat Asn	67285
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tcc Ser	gga Gly 11665	acc Thr	tcg Ser	gat Asp	ctg Leu	atc Ile 11670	ttt Phe	gcc Ala	gat Asp	cca Pro	tcg Ser 11675	cag Gln	ctt Leu	cat His	67375
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			agg Arg	cag Gln
			gct Ala	tta Leu 11750
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			gcc Ala	67600
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		aat Asn	ttc Phe 11760	cgc Arg
			gaa Glu	gga Gly
			cta Leu	gaa Glu 11765
			aat Asn	tca Ser
			tct Ser	67645
cgg Arg	gta Val 11770	tta Leu	gac Asp	ggt Gly
		cgc Arg	aca Thr 11775	act Thr
			ttg Leu	ctt Leu
			tta Leu	atg Met 11780
			aca Thr	tcc Ser
			atg Met	67690
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		gcc Ala	acg Thr 11790	caa Gln
			gca Ala	gca Ala
			ctt Leu	aac Asn 11795
			ata Ile	caa Gln
			gaa Glu	67735
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		aat Asn	cct Pro 11805	tca Ser
			aaa Lys	cac His
			atg Met	ttt Phe 11810
			aca Thr	ata Ile
			cca Pro	cca Pro
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			ctt Leu	cgt Arg
			aca Thr 11825	gac Asp
			ctc Leu	acg Thr
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			ctg Leu	tcg Ser
			gca Ala	ata Ile 11840
			cca Pro	aca Thr
			cgc Arg	67870
cca Pro	gga Gly 11845	ctt Leu	aac Asn	gag Glu
		gta Val	ttg Leu 11850	cat His
			acc Thr	caa Gln
			cta Leu	gac Asp 11855
			gaa Glu	tct Ser
			gaa Glu	67915
ata Ile	ttc Phe 11860	gac Asp	gcg Ala	gca Ala
		ttt Phe	aaa Lys 11865	acc Thr
			atg Met	atg Met
			att Ile	ttt Phe 11870
			acc Thr	aca Thr
			tgg Trp	67960
act Thr	gcc Ala 11875	aaa Lys	gat Asp	ttg Leu
		cat His	ata Ile 11880	ctc Leu
			cac His	acc Thr
			cat His	gta Val 11885
			cca Pro	gaa Glu
			gta Val	68005
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		gca Ala	gcc Ala 11895	gcg Ala
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			aac Asn	gga Gly
			gaa Glu 11900	tat Tyr
			gtg Val	ctc Leu
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		cag Gln	gga Gly 11910	cac His
			agg Ser	tat Tyr
			gtg Val	att Ile 11915
			aca Thr	cga Arg
			aac Asn	68095
aaa Lys	cct Pro 11920	caa Gln	agg Arg	ggt Gly
		gta Leu	ttg Leu 11925	gta Val
			tat Tyr	tcc Ser
			ctg Leu	gca Ala
			gat Asp 11930	gtg Val
			gat Asp	gat Asp
			act Thr	tgc Cys
			gtg Val	68140
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		ggt Val	gtt Val 11940	tat Tyr
			agg Arg	gat Asp 11945
			act Thr	tgc Cys
			gtg Val	68185
tct Ser	gaa Glu 11950	cat His	ggt Gly	gtc Val
		ata Ile	gag Glu 11955	acg Thr
			gta Val	gca Ala
			ctg Leu	ccc Pro 11960
			cat His	ccg Pro
			gac Asp	68230
aat Lys	tta Gln 11950	aaa Lys	gaa Glu	tgt Cys
		ttg Leu	tat Ile	ttg Leu
			tgc Val	gga Glu
			agg Arg	gtt Val
			ttt Phe	ctt Leu
			agg Arg	tat Ile
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Pro	Phe	Asn	Pro	Asp	Met	His	Gly	Asp	Asp	Ser	Lys	Ala	Val	Leu	
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Arg	Gln	Ala	Ile	Arg	Met	Ser	Gly	Gln	Tyr	Leu	Gly	Ala	Ser	Leu	
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Leu	Thr														
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cctcgtccgc	aaaaaaa	acc	gcacat	gata	acgcgc	ggat	acaat	gagta	gtgg	ctttat					69479

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Met Asn Pro Pro Gln Ala Arg Val Ser Glu Gln	
12090 12095	
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Thr Lys Asp Leu Leu Ser Val Met Val Asn Gln His Pro Glu Glu	
12100 12105 12110	
gac gca aaa gtg tgt aaa tcc agt gat aat tca ccg ctt tat aac	70755
Asp Ala Lys Val Cys Lys Ser Ser Asp Asn Ser Pro Leu Tyr Asn	
12115 12120 12125	
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Thr Met Val Met Leu Ser Tyr Gly Gly Asp Thr Asp Leu Leu Leu	
12130 12135 12140	
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Ser Ser Ala Cys Thr Arg Thr Ser Thr Val Asn Arg Ser Ala Phe	
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Thr Gln His Ser Val Phe Tyr Ile Ile Ser Thr Val Leu Ile Gln	
12160 12165 12170	
cca ata tgt tgt atc ttc ttt ttt ttt tac tat aaa gcg aca cgc	70935

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Pro	Ile	Cys	Cys	Ile	Phe	Phe	Phe	Phe	Tyr	Tyr	Lys	Ala	Thr	Arg	
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Cys	Met	Leu	Leu	Phe	Thr	Ala	Gly	Leu	Leu	Leu	Thr	Ile	Leu	His	
			12190					12195					12200		
cac	ttt	cga	ctt	att	att	atg	tta	ttg	tgt	gtc	tac	aga	aat	ata	71025
His	Phe	Arg	Leu	Ile	Ile	Met	Leu	Leu	Cys	Val	Tyr	Arg	Asn	Ile	
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Arg	Ser	Asp	Leu	Leu	Pro	Leu	Ser	Thr	Ser	Gln	Gln	Leu	Leu	Leu	
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Gly	Ile	Ile	Val	Val	Thr	Arg	Thr	Met	Leu	Phe	Cys	Ile	Thr	Ala	
			12235					12240					12245		
tat	tat	act	ctt	ttt	ata	gac	acc	cgg	gtg	ttc	ttt	ttg	att	acc	71160
Tyr	Tyr	Thr	Leu	Phe	Ile	Asp	Thr	Arg	Val	Phe	Phe	Leu	Ile	Thr	
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Gly	His	Leu	Gln	Ser	Glu	Val	Ile	Phe	Pro	Asp	Ser	Val	Ser	Lys	
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ata	ctt	cct	gtg	tcg	tggt	ggt	cca	agt	cca	gcc	gtg	tta	ctg	gta	71250
Ile	Leu	Pro	Val	Ser	Trp	Gly	Pro	Ser	Pro	Ala	Val	Leu	Leu	Val	
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Ser	Phe	Ile	Gly	Pro	Arg	Val	Trp	Val	Arg	Val	Met	Leu	Lys	Thr	
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Ser	Ile	Ser	Phe												
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gtg	att	act	aca	acg	gaa	tct	gat	cgt	att	gct	ggg	tta	ttt	aac	71611
Val	Ile	Thr	Thr	Thr	Glu	Ser	Asp	Arg	Ile	Ala	Gly	Leu	Phe	Asn	
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Ile	Pro	Ala	Gly	Ile	Ile	Pro	Thr	Gly	Asn	Val	Leu	Ser	Thr	Ile	
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Glu	Val	Cys	Ala	His	Arg	Cys	Ile	Phe	Asp	Phe	Phe	Lys	Gln	Ile	
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ttg Leu 12395	ggg Gly	aca Thr	tac Tyr	tgc Cys	aat Asn 12400	aca Thr	tta Leu	aac Asn	ttt Phe	gtg Val 12405	cgt Arg	ttt Phe	cta Leu	gaa Glu	71791
ctt Leu 12410	gga Gly	ctg Leu	tct Ser	gtc Val	gct Ala 12415	tgc Cys	atc Ile	tgt Cys	act Thr	aaa Lys 12420	ttt Phe	ccg Pro	gag Glu	ctg Leu	71836
gct Ala 12425	tac Tyr	gtg Val	cga Arg	gat Asp	ggc Gly 12430	gtt Val	att Ile	caa Gln	ttt Phe	gag Glu 12435	gta Val	caa Gln	caa Gln	ccc Pro	71881
atg Met 12440	ata Ile	gca Ala	cgt Arg	gat Asp	ggc Gly 12445	cca Pro	cat His	ccc Pro	gtc Val	gat Asp 12450	cag Gln	cct Pro	gtt Val	cat His	71926
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ttt Phe 12470	gca Ala	att Ile	gca Ala	tcg Ser	gaa Glu 12475	gcg Ala	ttg Leu	agt Ser	ttg Leu	tta Leu 12480	agt Ser	aac Asn	aca Thr	tat Tyr	72016
gtc Val 12485	gat Asp	ggg Gly	aca Thr	gag Glu	att Ile 12490	gac Asp	tca Ser	tcg Ser	tta Leu	cgt Arg 12495	ata Ile	aga Arg	gct Ala	atc Ile	72061
caa Gln 12500	cag Gln	atg Met	gct Ala	cgt Arg	aat Asn 12505	tta Leu	cgc Arg	acc Thr	gtt Val	ttg Leu 12510	gac Asp	tca Ser	ttt Phe	gaa Glu	72106
cga Arg 12515	ggc Gly	act Thr	gcc Ala	gat Asp	caa Gln 12520	ctt Leu	ctt Leu	ggt Gly	gtt Val	cta Leu 12525	ttg Leu	gag Glu	aaa Lys	gcc Ala	72151
cca Pro 12530	ccg Pro	cta Leu	tcg Ser	ctg Leu	ctt Leu 12535	tca Ser	cca Pro	att Ile	aat Asn	aaa Lys 12540	ttc Phe	caa Gln	ccc Pro	gag Glu	72196
gga Gly 12545	cat His	cta Leu	aat Asn	cgt Arg	gtt Val 12550	gca Ala	cgc Arg	gcg Ala	gcc Ala	cta Leu 12555	ctt Leu	tcg Ser	gac Asp	ctc Leu	72241
aaa Lys 12560	cgt Arg	aga Arg	gtc Val	tgt Cys	gcg Ala 12565	gat Asp	atg Met	ttt Phe	ttt Phe	atg Met 12570	acc Thr	cga Arg	cac His	gcc Ala	72286
agg Arg 12575	gaa Glu	cct Pro	agg Arg	ctg Leu	atc Ile 12580	tct Ser	gcg Ala	tat Tyr	ctg Leu	tcg Ser 12585	gat Asp	atg Met	gtt Val	tcg Ser	72331
tgc Cys 12590	acc Thr	caa Gln	cca Pro	tcg Ser	gtg Val 12595	atg Met	gta Val	tca Ser	cga Arg	ata Ile 12600	act Thr	cat His	aca Thr	aac Asn	72376
act Thr 12605	cgc Arg	gga Gly	cgg Arg	cag Gln	gtt Val 12610	gac Asp	ggt Gly	gtg Val	ttg Leu	gta Val 12615	aca Thr	aca Thr	gca Ala	acc Thr	72421

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gcc Ala 12635	gct Ala	gac Asp	gta Val	cca Pro	gta Val 12640	aca Thr	tat Tyr	ggc Gly	gaa Glu	atg Met 12645	gtt Val	cta Leu	cag Gln	ggg Gly	72511
aca Thr 12650	aac Asn	ttg Leu	gta Val	acc Thr	gcc Ala 12655	ctt Leu	gtg Val	atg Met	gga Gly	aag Lys 12660	gcc Ala	gtc Val	cgc Arg	gga Gly	72556
atg Met 12665	gat Asp	gat Asp	gta Val	gcc Ala	cgc Arg 12670	cat His	ctc Leu	ctt Leu	gat Asp	ata Ile 12675	acc Thr	gac Asp	cct Pro	aac Asn	72601
acg Thr 12680	tta Leu	aac Asn	ata Ile	ccg Pro	tct Ser 12685	ata Ile	ccc Pro	cca Pro	caa Gln	tcc Ser 12690	aac Asn	tcc Ser	gat Asp	tca Ser	72646
acg Thr 12695	aca Thr	gct Ala	ggg Gly	ctt Leu	ccg Pro 12700	gtt Val	aac Asn	gcc Ala	cgt Arg	gtt Val 12705	cct Pro	gcg Ala	gat Asp	tta Leu	72691
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cgg Arg 12725	gtc Val	tac Tyr	caa Gln	gct Ala	acg Thr 12730	cgc Arg	gtt Val	gcc Ala	tac Tyr	cct Pro 12735	ctt Leu	att Ile	gga Gly	aat Asn	72781
ata Ile 12740	gat Asp	att Ile	acg Thr	ttt Phe	atc Ile 12745	atg Met	cca Pro	atg Met	gga Gly	gtg Val 12750	ttt Phe	cag Gln	gca Ala	aac Asn	72826
tcc Ser 12755	atg Met	gac Asp	aga Arg	tat Tyr	aca Thr 12760	cga Arg	cac His	gcc Ala	ggc Gly	gat Asp 12765	ttt Phe	tca Ser	act Thr	gta Val	72871
tcc Ser 12770	gaa Glu	cag Gln	gat Asp	cca Pro	cgt Arg 12775	caa Gln	ttt Phe	cca Pro	ccc Pro	caa Gln 12780	ggg Gly	att Ile	ttt Phe	ttt Phe	72916
tat Tyr 12785	aat Asn	aaa Lys	gat Asp	ggg Gly	ata Ile 12790	tta Leu	aca Thr	cag Gln	ttg Leu	act Thr 12795	ctt Leu	cgt Arg	gat Asp	gca Ala	72961
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ctt Leu 12815	gtt Val	gcc Ala	ctc Leu	cgc Arg	caa Gln 12820	caa Gln	cat His	tta Leu	gat Asp	cgt Arg 12825	cag Gln	tgt Cys	tat Tyr	ttt Phe	73051
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atg Met	ggg Gly	agg Arg	ttt Phe	atg Met	gaa Glu	acg Thr	tgg Trp	gca Ala	gat Asp	atg Met	atg Met	cct Pro	cat His	cac His	73141

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ccg Pro 12875	agc Ser	aac Asn	ccg Pro	cgt Arg	cta Leu 12880	agg Arg	ttt Phe	gaa Glu	tta Leu	aac Asn 12885	ccc Pro	gcc Ala	ttt Phe	gat Asp	73231	
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ccc Pro 12905	ccg Pro	gaa Glu	gcc Ala	atg Met	cca Pro 12910	acc Thr	gtt Val	aac Asn	gca Ala	aca Thr 12915	tta Leu	cgg Arg	att Ile	atc Ile	73321	
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tgt Cys 12935	cgc Arg	gga Gly	acc Thr	caa Gln	ctc Leu 12940	ggt Gly	ttg Leu	gga Gly	aga Arg	cat His 12945	aca Thr	atg Met	acc Thr	ccg Pro	73411	
gca Ala 12950	acc Thr	att Ile	aaa Lys	gcc Ala	gta Val 12955	aag Lys	gat Asp	aca Thr	ttt Phe	gaa Glu 12960	gac Asp	cgc Arg	gca Ala	tac Tyr	73456	
cca Pro 12965	act Thr	att Ile	ttc Phe	tac Tyr	atg Met 12970	cta Leu	gag Glu	gct Ala	gtt Val	att Ile 12975	cat His	gga Gly	aac Asn	gaa Glu	73501	
aga Arg 12980	aac Asn	ttc Phe	tgt Cys	gcg Ala	tta Leu 12985	ctg Leu	cga Arg	ctg Leu	tta Leu	aca Thr 12990	cag Gln	tgt Cys	att Ile	cgc Arg	73546	
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cac His 13010	atg Met	tta Leu	atg Met	tac Tyr	ata Ile 13015	act Thr	aca Thr	tat Tyr	ctc Leu	gga Gly 13020	aac Asn	ggt Gly	gag Glu	ctt Leu	73636	
ccc Pro 13025	gaa Glu	gtc Val	tgt Cys	att Ile	aat Asn 13030	ata Ile	tat Tyr	cgg Arg	gat Asp	tta Leu 13035	ctg Leu	cag Gln	cat His	gta Val	73681	
aga Arg 13040	gca Ala	tta Leu	cgc Arg	caa Gln	act Thr 13045	ata Ile	acc Thr	gat Asp	ttt Phe	aca Thr 13050	ata Ile	caa Gln	gga Gly	gag Glu	73726	
ggc Gly 13055	cat His	aac Asn	ggc Gly	gag Glu	acc Thr 13060	tcg Ser	gaa Glu	gcg Ala	cta Leu	aat Asn 13065	aac Asn	atc Ile	ctt Leu	acg Thr	73771	
gat Asp 13070	gac Asp	acg Thr	ttt Phe	att Ile	gca Ala 13075	cct Pro	att Ile	cta Leu	tggt Trp	gat Asp 13080	tgt Cys	gat Asp	gcg Ala	tta Leu	73816	
ata	tac	cgt	gat	gaa	gcc	gcc	cga	gac	cga	ctc	ccc	gca	att	cgt	73861	

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Ile 13085	Tyr	Arg	Asp	Glu	Ala 13090	Ala	Arg	Asp	Arg	Leu 13095	Pro	Ala	Ile	Arg	
gta Val 13100	agc Ser	ggg Gly	cga Arg	aac Asn	gga Gly 13105	tac Tyr	caa Gln	gcc Ala	ctt Leu	cac His 13110	ttt Phe	gtg Val	gat Asp	atg Met	73906
gcc Ala 13115	ggg Gly	cat His	aac Asn	ttc Phe	caa Gln 13120	cga Arg	cgc Arg	gat Asp	aat Asn	gtg Val 13125	tta Leu	atc Ile	cac His	ggg Gly	73951
aga Arg 13130	ccc Pro	gtt Val	cgg Arg	gga Gly	gac Asp 13135	acg Thr	ggg Gly	cag Gln	ggg Gly	att Ile 13140	ccc Pro	att Ile	act Thr	cca Pro	73996
cac His 13145	cat His	gac Asp	cgt Arg	gaa Glu	tgg Trp 13150	ggg Gly	att Ile	ctc Leu	tcc Ser	aag Lys 13155	att Ile	tac Tyr	tac Tyr	tat Tyr	74041
att Ile 13160	gtc Val	att Ile	cct Pro	gca Ala	ttt Phe 13165	tcc Ser	cgc Arg	ggg Gly	tcc Ser	tgt Cys 13170	tgt Cys	aca Thr	atg Met	ggc Gly	74086
gtg Val 13175	cgt Arg	tat Tyr	gat Asp	cgc Arg	cta Leu 13180	tac Tyr	cct Pro	gcg Ala	tta Leu	cag Gln 13185	gca Ala	gtt Val	atc Ile	gtt Val	74131
ccg Pro 13190	gaa Glu	att Ile	ccc Pro	gct Ala	gat Asp 13195	gaa Glu	gaa Glu	gcc Ala	cca Pro	act Thr 13200	acc Thr	cca Pro	gaa Glu	gat Asp	74176
cca Pro 13205	aga Arg	cac His	cct Pro	ctt Leu	cac His 13210	gca Ala	cac His	caa Gln	ctc Leu	gtt Val 13215	ccg Pro	aac Asn	tct Ser	ctt Leu	74221
aac Asn 13220	gtt Val	tac Tyr	ttc Phe	cat His	aat Asn 13225	gca Ala	cac His	cta Leu	acc Thr	gtt Val 13230	gat Asp	ggg Gly	gat Asp	gca Ala	74266
ttg Leu 13235	ctc Leu	aca Thr	cta Leu	caa Gln	gag Glu 13240	tta Leu	atg Met	gga Gly	gat Asp	atg Met 13245	gct Ala	gaa Glu	cga Arg	acg Thr	74311
acg Thr 13250	gcc Ala	att Ile	tta Leu	gta Val	tca Ser 13255	agc Ser	gcc Ala	ccc Pro	gat Asp	gcg Ala 13260	gga Gly	gcc Ala	gcc Ala	acg Thr	74356
gca Ala 13265	aca Thr	acc Thr	aga Arg	aat Asn	atg Met 13270	aga Arg	ata Ile	tat Tyr	gac Asp	gga Gly 13275	gcg Ala	ctt Leu	tac Tyr	cat His	74401
ggc Gly 13280	ctt Leu	att Ile	atg Met	atg Met	gca Ala 13285	tat Tyr	cag Gln	gcg Ala	tac Tyr	gat Asp 13290	gaa Glu	acc Thr	att Ile	gca Ala	74446
acg Thr 13295	ggg Gly	act Thr	ttt Phe	ttt Phe	tat Tyr 13300	ccc Pro	gtt Val	ccg Pro	gtc Val	aac Asn 13305	cct Pro	ctg Leu	ttt Phe	gca Ala	74491
tgt Cys 13310	ccg Pro	gaa Glu	cat His	ttg Leu	gca Ala 13315	tca Ser	ttg Leu	cgt Arg	gga Gly	atg Met 13320	aca Thr	aat Asn	gct Ala	agg Arg	74536

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cgg Arg 13325	gtt Val	ttg Leu	gca Ala	aaa Lys	atg Met 13330	gta Val	cca Pro	cca Pro	atc Ile	cct Pro 13335	cct Pro	ttt Phe	ctg Leu	gga Gly	74581
gcc Ala 13340	aac Asn	cac His	cac His	gca Ala	act Thr 13345	ata Ile	cgc Arg	caa Gln	ccc Pro	gtt Val 13350	gcc Ala	tac Tyr	cat His	gta Val	74626
acg Thr 13355	cat His	agt Ser	aag Lys	tcg Ser	gat Asp 13360	ttt Phe	aat Asn	act Thr	ctt Leu	aca Thr 13365	tat Tyr	tct Ser	ctt Leu	ctt Leu	74671
gga Gly 13370	ggg Gly	tat Tyr	ttt Phe	aag Lys	ttt Phe 13375	aca Thr	cca Pro	ata Ile	tct Ser	ctt Leu 13380	aca Thr	cat His	caa Gln	cta Leu	74716
cga Arg 13385	acg Thr	gga Gly	ttt Phe	cac His	ccc Pro 13390	ggg Gly	att Ile	gcc Ala	ttt Phe	acc Thr 13395	gta Val	gtg Val	cgc Arg	cag Gln	74761
gat Asp 13400	cgc Arg	ttt Phe	gcc Ala	aca Thr	gag Glu 13405	caa Gln	ctt Leu	tta Leu	tat Tyr	gcc Ala 13410	gag Glu	cgt Arg	gct Ala	tct Ser	74806
gaa Glu 13415	tcg Ser	tac Tyr	ttt Phe	gtc Val	gga Gly 13420	caa Gln	atc Ile	caa Gln	gta Val	cac His 13425	cat His	cat His	gat Asp	gct Ala	74851
att Ile 13430	ggg Gly	ggg Gly	gta Val	aac Asn	ttt Phe 13435	acc Thr	cta Leu	acc Thr	caa Gln	ccc Pro 13440	aga Arg	gct Ala	cac His	gtg Val	74896
gac Asp 13445	ctg Leu	gga Gly	gtc Val	ggg Gly	tat Tyr 13450	aca Thr	gct Ala	gta Val	tgt Cys	gcc Ala 13455	aca Thr	gca Ala	gcc Ala	ctg Leu	74941
cga Arg 13460	tgc Cys	cct Pro	ctc Leu	acg Thr	gat Asp 13465	atg Met	ggc Gly	aat Asn	act Thr	gcc Ala 13470	caa Gln	aat Asn	ctt Leu	ttt Phe	74986
ttt Phe 13475	tca Ser	cga Arg	gga Gly	gga Gly	gtg Val 13480	cca Pro	atg Met	tta Leu	cat His	gat Asp 13485	aac Asn	gtt Val	acc Thr	gaa Glu	75031
tcg Ser 13490	ttg Leu	cgt Arg	cgt Arg	ata Ile	aca Thr 13495	gca Ala	tcg Ser	ggg Gly	ggg Gly	cgc Arg 13500	tta Leu	aat Asn	ccc Pro	acc Thr	75076
gaa Glu 13505	ccc Pro	cta Leu	ccc Pro	atc Ile	ttc Phe 13510	ggc Gly	gga Gly	cta Leu	cgt Arg	cct Pro 13515	gct Ala	aca Thr	tcg Ser	gca Ala	75121
gga Gly 13520	att Ile	gca Ala	cga Arg	ggg Gly	caa Gln 13525	gcc Ala	tct Ser	gtg Val	tgt Cys	gag Glu 13530	ttt Phe	gtg Val	gcc Ala	atg Met	75166
ccg Pro 13535	gtg Val	tcc Ser	act Thr	gac Asp	cta Leu 13540	caa Gln	tat Tyr	ttt Phe	aga Arg	act Thr 13545	gca Ala	tgc Cys	aat Asn	cct Pro	75211
aga Arg 13550	ggg Gly	cga Arg	gca Ala	tct Ser	gga Gly 13555	atg Met	tta Leu	tat Tyr	atg Met	ggg Gly 13560	gac Asp	cgt Arg	gac Asp	gcc Ala	75256

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gac Asp 13565	ata Ile	gag Glu	gct Ala	ata Ile	atg Met 13570	ttt Phe	gat Asp	cac His	aca Thr	caa Gln 13575	tcg Ser	gat Asp	gtt Val	gct Ala	75301						
tat Tyr 13580	aca Thr	gat Asp	cga Arg	gca Ala	act Thr 13585	ctt Leu	aac Asn	cca Pro	tgg Trp	gca Ala 13590	tca Ser	caa Gln	aaa Lys	cat His	75346						
tca Ser 13595	tac Tyr	ggt Gly	gac Asp	agg Arg	cta Leu 13600	tac Tyr	aac Asn	gga Gly	aca Thr	tac Tyr 13605	aac Asn	ctt Leu	aca Thr	ggc Gly	75391						
gct Ala 13610	tct Ser	cct Pro	atc Ile	tac Tyr	agc Ser 13615	cca Pro	tgc Cys	ttt Phe	aag Lys	ttt Phe 13620	ttt Phe	aca Thr	cca Pro	gcg Ala	75436						
gag Glu 13625	gtt Val	aac Asn	act Thr	aat Asn	tgt Cys 13630	aat Asn	aca Thr	ctg Leu	gat Asp	cgg Arg 13635	ctt Leu	cta Leu	atg Met	gag Glu	75481						
gca Ala 13640	aag Lys	gct Ala	gtg Val	gcg Ala	tcg Ser 13645	caa Gln	agc Ser	tcc Ser	acc Thr	gac Asp 13650	act Thr	gaa Glu	tat Tyr	caa Gln	75526						
ttt Phe 13655	aaa Lys	cgc Arg	cct Pro	ccc Pro	ggc Gly 13660	tct Ser	acc Thr	gaa Glu	atg Met	aca Thr 13665	cag Gln	gat Asp	ccg Pro	tgt Cys	75571						
ggc Gly 13670	ctt Leu	ttt Phe	caa Gln	gaa Glu	gca Ala 13675	tat Tyr	cca Pro	cca Pro	cta Leu	tgc Cys 13680	tca Ser	agc Ser	gat Asp	gcg Ala	75616						
gcc Ala 13685	atg Met	tta Leu	cga Arg	acg Thr	gct Ala 13690	cac His	gcg Ala	gga Gly	gaa Glu	acc Thr 13695	ggg Gly	gca Ala	gat Asp	gaa Glu	75661						
gtt Val 13700	cac His	tta Leu	gcc Ala	caa Gln	tat Tyr 13705	ctg Leu	att Ile	cga Arg	gac Asp	gcg Ala 13710	tcg Ser	ccc Pro	ctt Leu	agg Arg	75706						
gga Gly 13715	tgt Cys	ctt Leu	cct Pro	ctt Leu	ccg Pro 13720	cga Arg	taa	tttcaccacg cccacataacc						75750							
cactcccaat aaaagccctg tagagcgcat tggcatctta cttgagattt ggatacgctc															75810						
ggccgacttg gtctgtttca cgcttcctta aacaac atg gct atg cca ttt gag															75864						
Met Ala Met Pro Phe Glu 13725																					
ata Ile	gag Glu	gta Val 13730	ttg Leu	tta Leu	cca Pro	gga Gly	gaa Glu 13735	cta Leu	tcc Ser	ccg Pro	gcg Ala	gaa Glu 13740	aca Thr	tct Ser	75909						
gca Ala	tta Leu	cag Gln 13745	aaa Lys	tgt Cys	gag Glu	gga Gly	aaa Lys 13750	att Ile	att Ile	acc Thr	ttc Phe	tca Ser 13755	acc Thr	ctg Leu	75954						
cgt Arg	cat His	cga Arg 13760	gct Ala	tca Ser	ctg Leu	gtg Val	gat Asp 13765	ata Ile	gcg Ala	ctg Leu	tcg Ser	tca Ser 13770	tat Tyr	tac Tyr	75999						

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att Ile	aac Asn	ggt Gly 13775	gct Ala	cca Pro	cca Pro	gac Asp	acg Thr 13780	ctc Leu	tcg Ser	ctg Leu	tta Leu	gag Glu 13785	gca Ala	tac Tyr	76044
cga Arg	atg Met	cga Arg 13790	ttc Phe	gcg Ala	gca Ala	gtt Val	ata Ile 13795	aca Thr	cgg Arg	gtc Val	atc Ile	ccg Pro 13800	gga Gly	aag Lys	76089
ttg Leu	ttg Leu	gcg Ala 13805	cat His	gcc Ala	att Ile	ggc Gly	gtg Val 13810	ggg Gly	act Thr	cct Pro	aca Thr	ccc Pro 13815	ggg Gly	ttg Leu	76134
ttt Phe	att Ile	caa Gln 13820	aat Asn	aca Thr	tcc Ser	ccc Pro	gtt Val 13825	gat Asp	ctt Leu	tgt Cys	aat Asn	ggc Gly 13830	gat Asp	tac Tyr	76179
atc Ile	tgc Cys	tta Leu 13835	ctt Leu	cct Pro	ccg Pro	gtt Val	ttc Phe 13840	ggg Gly	tcc Ser	gca Ala	gac Asp	tca Ser 13845	att Ile	cgc Arg	76224
ttg Leu	gac Asp	tct Ser 13850	gta Val	gga Gly	ctg Leu	gaa Glu	att Ile 13855	gtt Val	ttc Phe	cct Pro	tta Leu	acc Thr 13860	atc Ile	ccc Pro	76269
cag Gln	acc Thr	tta Leu 13865	atg Met	cga Arg	gaa Glu	atc Ile	atc Ile 13870	gcc Ala	aaa Lys	gtg Val	gtt Val	gca Ala 13875	cgg Arg	gcc Ala	76314
gtt Val	gag Glu	cgc Arg 13880	acg Thr	gcc Ala	gcg Ala	ggg Gly	gct Ala 13885	caa Gln	att Ile	tta Leu	ccc Pro	cac His 13890	gaa Glu	gtt Val	76359
cta Leu	cga Arg	ggc Gly 13895	gcg Ala	gat Asp	gtc Val	att Ile	tgt Cys 13900	tac Tyr	aat Asn	gga Gly	agg Arg	cgt Arg 13905	tat Tyr	gaa Glu	76404
ctc Leu	gaa Glu	aca Thr 13910	aat Asn	tta Leu	caa Gln	cat His	cgg Arg 13915	gac Asp	gga Gly	tcg Ser	gat Asp	gcg Ala 13920	gct Ala	att Ile	76449
cgc Arg	aca Thr	ttg Leu 13925	gtt Val	tta Leu	aat Asn	cta Leu	atg Met 13930	ttt Phe	tcc Ser	ata Ile	aac Asn	gag Glu 13935	gga Gly	tgt Cys	76494
ctg Leu	ctt Leu	tta Leu 13940	ttg Leu	gcg Ala	ctg Leu	att Ile	cca Pro 13945	act Thr	ttg Leu	tta Leu	gtc Val	caa Gln 13950	gga Gly	gca Ala	76539
cac His	gac Asp	ggg Gly 13955	tat Tyr	gta Val	aat Asn	tta Leu	ttg Leu 13960	ata Ile	caa Gln	acg Thr	gcc Ala	aat Asn 13965	tgc Cys	gtt Val	76584
aga Arg	gaa Glu	acc Thr 13970	ggc Gly	cag Gln	tta Leu	att Ile	aat Asn 13975	ata Ile	ccg Pro	cca Pro	atg Met	ccg Pro 13980	cgg Arg	att Ile	76629
caa Gln	gac Asp	ggc Gly 13985	cat His	cgc Arg	cga Arg	ttt Phe	ccc Pro 13990	ata Ile	tat Tyr	gaa Glu	act Thr	att Ile 13995	tca Ser	tct Ser	76674
tgg Trp	ata Ile	tca Ser 14000	aca Thr	tca Ser	tct Ser	aga Arg	ctg Leu 14005	ggg Gly	gat Asp	acc Thr	ttg Leu	gga Gly 14010	act Thr	cgc Arg	76719

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gca att tta	cgc gtc	tgt gtg	ttt	gat gga	ccc tct	act	gtt cat	76764
Ala Ile Leu	Arg Val Cys	Val Phe	Asp Gly	Pro Ser Thr	Val His			
14015		14020		14025				
ccg gga gac	cgc acg	gcc gtg	att	caa gtg	taa acaggtgtta		76807	
Pro Gly Asp	Arg Thr Ala	Val Ile	Gln Val					
14030		14035						
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				Met Glu Ala	His			
				14040				
ttg gca aat gaa	acc aaa cat	gca ctt	tgg cat aat gat	cac	aca	78226		
Leu Ala Asn Glu	Thr Lys His Ala	Leu	Trp His Asn Asp	His	Thr			
14045		14050		14055				
aaa gga tta cta	cac gtt gtg ata	cct	aac gcg ggg ctt att	gcg	78271			
Lys Gly Leu Leu	His Val Val Ile	Pro	Asn Ala Gly Leu Ile	Ala				

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14060	14065	14070	
gcc gga ata gat Ala Gly Ile Asp 14075	ccc gca tta ctg att Pro Ala Leu Leu Ile 14080	tta aag aaa ccc gga Leu Lys Lys Pro Gly 14085	caa Gln 78316
cgc ttc aag gtt Arg Phe Lys Val 14090	gaa gta caa aca aga Glu Val Gln Thr Arg 14095	tat cat gct aca ggt Tyr His Ala Thr Gly 14100	caa Gln 78361
tgc gaa ccg tgg Cys Glu Pro Trp 14105	tgt caa gtt ttc gcc Cys Gln Val Phe Ala 14110	gcg tac att ccc gat Ala Tyr Ile Pro Asp 14115	aac Asn 78406
gcc tta aca aat Ala Leu Thr Asn 14120	ctc tta ata cca aaa Leu Leu Ile Pro Lys 14125	acg gaa cca ttt gtt Thr Glu Pro Phe Val 14130	tca Ser 78451
cac gtt ttt tcg His Val Phe Ser 14135	gcc acg cat aat tca Ala Thr His Asn Ser 14140	ggg gga ttg att tta Gly Gly Leu Ile Leu 14145	tca Ser 78496
ttg cct gtt tat Leu Pro Val Tyr 14150	ctt agc ccc ggt tta Leu Ser Pro Gly Leu 14155	ttc ttt gat gca ttt Phe Phe Asp Ala Phe 14160	aac Asn 78541
gtt gta gcg ata Val Val Ala Ile 14165	cga ata aat act gga Arg Ile Asn Thr Gly 14170	aac cgc aag cac cgt Asn Arg Lys His Arg 14175	gat Asp 78586
att tgt att atg Ile Cys Ile Met 14180	tat gca gaa cta atc Tyr Ala Glu Leu Ile 14185	cca aac gga acg cgt Pro Asn Gly Thr Arg 14190	tat Tyr 78631
ttt gct gat gga Phe Ala Asp Gly 14195	caa cgg gta ctt tta Gln Arg Val Leu Leu 14200	tta tgc aaa cag ctg Leu Cys Lys Gln Leu 14205	att Ile 78676
gcg tat atc cga Ala Tyr Ile Arg 14210	tgc acc cct cgt ctt Cys Thr Pro Arg Leu 14215	gca tcg tct ata aaa Ala Ser Ser Ile Lys 14220	ata Ile 78721
tac gca gag cat Tyr Ala Glu His 14225	atg gtg gca gcc atg Met Val Ala Ala Met 14230	ggt gaa tca cac acg Gly Glu Ser His Thr 14235	tca Ser 78766
aat ggg gac aat Asn Gly Asp Asn 14240	att gga ccc gtt tca Ile Gly Pro Val Ser 14245	tcc ata atc gat ctt Ser Ile Ile Asp Leu 14250	gat Asp 78811
cga cag tta act Arg Gln Leu Thr 14255	tct gga ggt att gat Ser Gly Gly Ile Asp 14260	gac tcc cct gct gaa Asp Ser Pro Ala Glu 14265	aca Thr 78856
cgc ata cag gaa Arg Ile Gln Glu 14270	aat aat cgg gac gtc Asn Asn Arg Asp Val 14275	ctt gag cta ata aaa Leu Glu Leu Ile Lys 14280	cgg Arg 78901
gcc gta aac att Ala Val Asn Ile 14285	gtt aac tcc agg cac Val Asn Ser Arg His 14290	ccc gtc cga cct tct Pro Val Arg Pro Ser 14295	agt Ser 78946
tcc cgc gtt gca	tct ggg ttg ctt caa	agt gca aag ggc cac	gga 78991

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Ser	Arg	Val	Ala	Ser	Gly	Leu	Leu	Gln	Ser	Ala	Lys	Gly	His	Gly	
			14300					14305					14310		
gcg	caa	act	tcc	aac	aca	gat	ccg	atc	aat	aac	ggt	tcc	ttt	gat	79036
Ala	Gln	Thr	Ser	Asn	Thr	Asp	Pro	Ile	Asn	Asn	Gly	Ser	Phe	Asp	
			14315					14320					14325		
ggc	gtc	ctt	gag	ccg	cct	gga	caa	ggg	cga	ttt	acg	gga	aag	aaa	79081
Gly	Val	Leu	Glu	Pro	Pro	Gly	Gln	Gly	Arg	Phe	Thr	Gly	Lys	Lys	
			14330					14335					14340		
aac	aat	tcg	tcc	gcc	agc	atc	cca	cct	tta	caa	gac	ggt	cta	ttg	79126
Asn	Asn	Ser	Ser	Ala	Ser	Ile	Pro	Pro	Leu	Gln	Asp	Val	Leu	Leu	
			14345					14350					14355		
ttt	acc	cca	gct	tcg	aca	gaa	ccc	caa	agt	ctt	atg	gaa	tgg	ttc	79171
Phe	Thr	Pro	Ala	Ser	Thr	Glu	Pro	Gln	Ser	Leu	Met	Glu	Trp	Phe	
			14360					14365					14370		
gac	atc	tgt	tat	gcc	caa	tta	gtt	agc	ggg	gac	act	cca	gca	gat	79216
Asp	Ile	Cys	Tyr	Ala	Gln	Leu	Val	Ser	Gly	Asp	Thr	Pro	Ala	Asp	
			14375					14380					14385		
ttc	tgg	aaa	cgg	cgt	ccc	cta	tca	att	gta	ccg	cga	cat	tac	gca	79261
Phe	Trp	Lys	Arg	Arg	Pro	Leu	Ser	Ile	Val	Pro	Arg	His	Tyr	Ala	
			14390					14395					14400		
gaa	tcc	ccc	agt	ccg	ttg	att	gta	gta	tct	tac	aac	gga	tcc	tct	79306
Glu	Ser	Pro	Ser	Pro	Leu	Ile	Val	Val	Ser	Tyr	Asn	Gly	Ser	Ser	
			14405					14410					14415		
gcc	tgg	gga	gga	cgt	att	acc	gga	agt	cca	att	tta	tat	cac	tct	79351
Ala	Trp	Gly	Gly	Arg	Ile	Thr	Gly	Ser	Pro	Ile	Leu	Tyr	His	Ser	
			14420					14425					14430		
gca	cag	gct	att	att	gat	gct	gcg	tgt	ata	aat	gcc	cgg	gtt	gac	79396
Ala	Gln	Ala	Ile	Ile	Asp	Ala	Ala	Cys	Ile	Asn	Ala	Arg	Val	Asp	
			14435					14440					14445		
aat	ccc	caa	agc	cta	cat	gtg	aca	gct	cgc	caa	gag	cta	gtc	gcg	79441
Asn	Pro	Gln	Ser	Leu	His	Val	Thr	Ala	Arg	Gln	Glu	Leu	Val	Ala	
			14450					14455					14460		
cgt	tta	ccg	ttt	ttg	gct	aac	gtc	cta	aat	aat	caa	acc	ccc	tta	79486
Arg	Leu	Pro	Phe	Leu	Ala	Asn	Val	Leu	Asn	Asn	Gln	Thr	Pro	Leu	
			14465					14470					14475		
ccc	gcc	ttt	aaa	cca	ggc	gcc	gaa	atg	ttt	tta	aac	cag	gta	ttt	79531
Pro	Ala	Phe	Lys	Pro	Gly	Ala	Glu	Met	Phe	Leu	Asn	Gln	Val	Phe	
			14480					14485					14490		
aaa	caa	gcg	tgt	gtg	aca	tcg	cta	acc	caa	ggt	ctt	ata	acg	gag	79576
Lys	Gln	Ala	Cys	Val	Thr	Ser	Leu	Thr	Gln	Gly	Leu	Ile	Thr	Glu	
			14495					14500					14505		
tta	caa	acg	aac	ccg	act	cta	caa	caa	ctc	atg	gaa	tat	gat	att	79621
Leu	Gln	Thr	Asn	Pro	Thr	Leu	Gln	Gln	Leu	Met	Glu	Tyr	Asp	Ile	
			14510					14515					14520		
gca	gat	tct	tcc	caa	acg	gtt	att	gat	gaa	att	gta	gcc	cgc	aca	79666
Ala	Asp	Ser	Ser	Gln	Thr	Val	Ile	Asp	Glu	Ile	Val	Ala	Arg	Thr	
			14525					14530					14535		

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cca gac ctg att	cag act ata gtt tcg	gtg tta acg gaa atg	tca	79711
Pro Asp Leu Ile	Gln Thr Ile Val Ser	Val Leu Thr Glu Met	Ser	
14540	14545	14550		
atg gat gcg ttt	tat aac agc tcc ttg	atg tat gcg gtt ttg	gcg	79756
Met Asp Ala Phe	Tyr Asn Ser Ser Leu	Met Tyr Ala Val Leu	Ala	
14555	14560	14565		
tat ctg tca tct	gta tat aca cga cca	caa ggt ggg ggg tat	ata	79801
Tyr Leu Ser Ser	Val Tyr Thr Arg Pro	Gln Gly Gly Gly Tyr	Ile	
14570	14575	14580		
ccc tac ctt cac	gct tcc ttc cca tgc	tgg tta ggt aat cgt	tct	79846
Pro Tyr Leu His	Ala Ser Phe Pro Cys	Trp Leu Gly Asn Arg	Ser	
14585	14590	14595		
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Ile Tyr Leu Phe	Asp Tyr Tyr Asn Ser	Gly Gly Glu Ile Leu	Lys	
14600	14605	14610		
ctt tcc aag gtc	ccc gtt ccc gta gcc	tta gaa aag gtt ggt	att	79936
Leu Ser Lys Val	Pro Val Pro Val Ala	Leu Glu Lys Val Gly	Ile	
14615	14620	14625		
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Gly Asn Ser Thr	Gln Leu Arg Gly Lys	Phe Ile Arg Ser Ala	Asp	
14630	14635	14640		
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Ile Val Asp Ile	Gly Ile Cys Ser Lys	Tyr Leu Pro Gly Gln	Cys	
14645	14650	14655		
tac gcg tac att	tgt cta gga ttt aac	cag caa tta caa tcc	att	80071
Tyr Ala Tyr Ile	Cys Leu Gly Phe Asn	Gln Gln Leu Gln Ser	Ile	
14660	14665	14670		
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Leu Val Leu Pro	Gly Gly Phe Ala Ala	Cys Phe Cys Ile Thr	Asp	
14675	14680	14685		
acc cta cag gca	gca cta cct gca tcg	tta atc gga cct att	cta	80161
Thr Leu Gln Ala	Ala Leu Pro Ala Ser	Leu Ile Gly Pro Ile	Leu	
14690	14695	14700		
gac aga ttc tgc	ttc tct att ccc aac	ccc cat aaa taa		80200
Asp Arg Phe Cys	Phe Ser Ile Pro Asn	Pro His Lys		
14705	14710			
attagtggtca ctataaaaac	ataacaccag aatctcttca	tatgtaattt tacgtcattt		80260
ctcccgtttc caccctctct	taaaatataa aataaccggg	tgggtggcat taaaccaca		80320
agtacccggg cggaatccg	ctagactgtt tttctgctc	atg gaa tta caa cgc		80374
		Met Glu Leu Gln Arg		
		14715		
ata ttt ccg ctg tac	acc gct acg ggt gca gcg	cgc aaa tta acc		80419
Ile Phe Pro Leu Tyr Thr	Ala Thr Gly Ala Ala Arg	Lys Leu Thr		
14720	14725	14730		
ccc gag gca gtt cag	aga ctc tgc gat gca tta	acg ctg gat atg		80464
Pro Glu Ala Val Gln Arg	Leu Leu Cys Asp Ala Leu	Thr Thr Met		
14735	14740	14745		

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cga tca act gct ttt ata act tta agg atc gct ccg ttt atc ccc 80554 Arg Ser Thr Ala Phe Ile Thr Leu Arg Ile Ala Pro Phe Ile Pro 14765 14770 14775
ctt caa acg gat act act aat att gcc gtt gtt gta gcc aca att 80599 Leu Gln Thr Asp Thr Thr Asn Ile Ala Val Val Val Ala Thr Ile 14780 14785 14790
tac atc acg cgc cca cgt cag atg aac tta cct ccg aag act ttt 80644 Tyr Ile Thr Arg Pro Arg Gln Met Asn Leu Pro Pro Lys Thr Phe 14795 14800 14805
cat gta att gta aat ttt aat tac gag gtc tcg tac gca atg acg 80689 His Val Ile Val Asn Phe Asn Tyr Glu Val Ser Tyr Ala Met Thr 14810 14815 14820
gcg act tta aga att tat ccg gtt gaa aac ata gac cat gtt ttt 80734 Ala Thr Leu Arg Ile Tyr Pro Val Glu Asn Ile Asp His Val Phe 14825 14830 14835
gga gca acg ttt aag aac ccg atc gcg tac ccc ctt cca aca tct 80779 Gly Ala Thr Phe Lys Asn Pro Ile Ala Tyr Pro Leu Pro Thr Ser 14840 14845 14850
att ccg gat cct cga gca gat ccc acc ccc gca gat ctt aca cca 80824 Ile Pro Asp Pro Arg Ala Asp Pro Thr Pro Ala Asp Leu Thr Pro 14855 14860 14865
acg cca aac tta agc aac tac tta caa ccc ccg ccg ctt ccg aaa 80869 Thr Pro Asn Leu Ser Asn Tyr Leu Gln Pro Pro Arg Leu Pro Lys 14870 14875 14880
aat cca tac gca tgt aaa gtt att tct ccg gga gtg tgg tgg tca 80914 Asn Pro Tyr Ala Cys Lys Val Ile Ser Pro Gly Val Trp Trp Ser 14885 14890 14895
gac gaa cga agg cgt tta tat gta ctg gct atg gaa cct aat tta 80959 Asp Glu Arg Arg Arg Leu Tyr Val Leu Ala Met Glu Pro Asn Leu 14900 14905 14910
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aat cat aga gtt cac gtg ggg gca ctg tat gcg tta ccc cat gtc 81094 Asn His Arg Val His Val Gly Ala Leu Tyr Ala Leu Pro His Val 14945 14950 14955
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Met Ser Gly His Thr Pro Thr Tyr Ala Ser His Arg Arg	
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Asn Arg Val Lys Leu Val Glu Ala His Asn Arg Ala Gly Leu Phe	
15090 15095 15100	
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Lys Glu Arg Thr Leu Asp Leu Ile Arg Gly Gly Ala Ser Val Gln	
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Asp Pro Ala Phe Val Tyr Ala Phe Thr Ala Ala Lys Glu Ala Cys	
15120 15125 15130	
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Ala Asp Leu Asn Asn Gln Leu Arg Ser Ala Ala Arg Ile Ala Ser	
15135 15140 15145	
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Val Glu Gln Lys Ile Arg Asp Ile Gln Ser Lys Val Glu Glu Gln	
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Thr Ser Ile Gln Gln Ile Leu Asn Thr Asn Arg Arg Tyr Ile Ala	
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ccc gat ttt att cgc ggt ttg gat aaa aca gaa gac gat aat acc	83072
Pro Asp Phe Ile Arg Gly Leu Asp Lys Thr Glu Asp Asp Asn Thr	
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Asp Asn Ile Asp Arg Leu Glu Asp Ala Val Gly Pro Asn Ile Glu	
15195 15200 15205	
cac gaa aat cat act tgg ttt gga gaa gac gac gaa gcg tta ctt	83162
His Glu Asn His Thr Trp Phe Gly Glu Asp Asp Glu Ala Leu Leu	
15210 15215 15220	
aca caa tgg atg ctg acg aca cac ccc cca acc tcc aaa tat ctc	83207
Thr Gln Trp Met Leu Thr Thr His Pro Pro Thr Ser Lys Tyr Leu	
15225 15230 15235	
caa ctg cag gac ctt tgc gtt ccc acc aca ata ccg acg gac atg	83252
Gln Leu Gln Asp Leu Cys Val Pro Thr Thr Ile Pro Thr Asp Met	
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aac caa atg caa ccg cag ccg atc agc aag aac gag aat cca cca	83297
Asn Gln Met Gln Pro Gln Pro Ile Ser Lys Asn Glu Asn Pro Pro	
15255 15260 15265	
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Thr Pro His Thr Asp Val	
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Met Ala Arg Ser Gly	Leu Asp Arg Ile Asp	Ile Ser Pro Gln Pro				
	15280	15285			15290	
gcc aaa aaa att gcc	cgt gtg gga ggt cta	cag cac cct ttt gta				84756
Ala Lys Lys Ile Ala	Arg Val Gly Gly Leu	Gln His Pro Phe Val				
	15295	15300			15305	
aaa acg gat att aac	acg att aac gtt gaa	cac cat ttt ata gac				84801
Lys Thr Asp Ile Asn	Thr Ile Asn Val Glu	His His Phe Ile Asp				
	15310	15315			15320	
acg cta cag aag aca	tca ccg aac atg gac	tgt cgc ggg atg aca				84846
Thr Leu Gln Lys Thr	Ser Pro Asn Met Asp	Cys Arg Gly Met Thr				
	15325	15330			15335	
gcg ggt att ttt att	cgt tta tcc cac atg	tat aaa att cta aca				84891
Ala Gly Ile Phe Ile	Arg Leu Ser His Met	Tyr Lys Ile Leu Thr				
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act ctg gag tct cca	aat gat gta acc tac	aca aca ccc ggt tct				84936

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Thr	Asn	Ala	Leu	Phe	Phe	Lys	Thr	Ser	Thr	Gln	Pro	Gln	Glu	Pro	
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Arg	Pro	Glu	Glu	Leu	Ala	Ser	Lys	Leu	Thr	Gln	Asp	Asp	Ile	Lys	
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cgt	att	cta	tta	aca	ata	gaa	tcg	gag	act	cgt	ggg	cag	ggc	gac	85071
Arg	Ile	Leu	Leu	Thr	Ile	Glu	Ser	Glu	Thr	Arg	Gly	Gln	Gly	Asp	
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aat	gcc	att	tgg	aca	cta	ctc	aga	cga	aat	tta	atc	acc	gca	tca	85116
Asn	Ala	Ile	Trp	Thr	Leu	Leu	Arg	Arg	Asn	Leu	Ile	Thr	Ala	Ser	
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Thr	Leu	Lys	Trp	Ser	Val	Ser	Gly	Pro	Val	Ile	Pro	Pro	Gln	Trp	
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Phe	Tyr	His	His	Asn	Thr	Thr	Asp	Thr	Tyr	Gly	Asp	Ala	Ala	Ala	
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Met	Ala	Phe	Gly	Lys	Thr	Asn	Glu	Pro	Ala	Ala	Arg	Ala	Ile	Val	
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gaa	gca	ttg	ttt	ata	gat	ccg	gct	gat	atc	cgt	act	cct	gat	cat	85296
Glu	Ala	Leu	Phe	Ile	Asp	Pro	Ala	Asp	Ile	Arg	Thr	Pro	Asp	His	
				15475					15480					15485	
tta	acg	cca	gaa	gct	aca	act	aag	ttt	ttt	aat	ttt	gac	atg	ctc	85341
Leu	Thr	Pro	Glu	Ala	Thr	Thr	Lys	Phe	Phe	Asn	Phe	Asp	Met	Leu	
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aat	acc	aaa	tct	cca	agt	ctc	ctt	gtg	ggg	aca	cca	aga	atc	gga	85386
Asn	Thr	Lys	Ser	Pro	Ser	Leu	Leu	Val	Gly	Thr	Pro	Arg	Ile	Gly	
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acg	tat	gaa	tgt	gga	ctt	tta	atc	gac	gtt	cga	acg	gga	ctt	ata	85431
Thr	Tyr	Glu	Cys	Gly	Leu	Leu	Ile	Asp	Val	Arg	Thr	Gly	Leu	Ile	
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ggc	gcg	tcg	ttg	gac	gtt	ctt	gta	tgt	gac	agg	gac	cct	tta	act	85476
Gly	Ala	Ser	Leu	Asp	Val	Leu	Val	Cys	Asp	Arg	Asp	Pro	Leu	Thr	
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ggc	acc	cta	aat	ccc	cac	cct	gca	gaa	acc	gac	att	tca	ttt	ttt	85521
Gly	Thr	Leu	Asn	Pro	His	Pro	Ala	Glu	Thr	Asp	Ile	Ser	Phe	Phe	
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Glu	Ile	Lys	Cys	Arg	Ala	Lys	Tyr	Leu	Phe	Asp	Pro	Asp	Asp	Lys	
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aat	aac	ccg	ctc	ggg	cgg	acg	tac	acc	acg	tta	ata	aat	aga	cct	85611
Asn	Asn	Pro	Leu	Gly	Arg	Thr	Tyr	Thr	Thr	Leu	Ile	Asn	Arg	Pro	
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Cys Val Ser Phe Phe	Gly Pro Ser Ala Asn	Pro Ser Thr Arg Glu	
15610	15615	15620	
gcc tta ata acg gat	cac gtt gaa tgg aaa	cgt tta gga ttt aaa	85746
Ala Leu Ile Thr Asp	His Val Glu Trp Lys	Arg Leu Gly Phe Lys	
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Gly Gly Arg Ala Leu	Thr Glu Leu Asp Ala	His His Leu Gly Leu	
15640	15645	15650	
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Asn Arg Thr Ile Ser	Ser Arg Val Trp Val	Phe Asn Asp Pro Asp	
15655	15660	15665	
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Ile Gln Lys Gly Thr	Ile Thr Thr Ile Ala	Trp Ala Thr Gly Asp	
15670	15675	15680	
acg gct ctt caa att	cct gta ttt gcc aat	ccg cgg cac gct aac	85926
Thr Ala Leu Gln Ile	Pro Val Phe Ala Asn	Pro Arg His Ala Asn	
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Phe Lys Gln Ile Ala	Val Gln Thr Tyr Val	Leu Ser Gly Tyr Phe	
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Pro Ala Leu Lys Leu	Arg Pro Phe Leu Val	Thr Phe Ile Gly Arg	
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Val Arg Arg Pro His	Glu Val Gly Val Pro	Leu Arg Val Asp Thr	
15730	15735	15740	
caa gcg gct gcc att	tac gaa tat aac tgg	ccg act atc cca ccc	86106
Gln Ala Ala Ala Ile	Tyr Glu Tyr Asn Trp	Pro Thr Ile Pro Pro	
15745	15750	15755	
cac tgt gcg gtt ccg	gtt ata gcc gtt cta	acg cct atc gaa gtt	86151
His Cys Ala Val Pro	Val Ile Ala Val Leu	Thr Pro Ile Glu Val	
15760	15765	15770	
gat gtg cct aga gtg	aca caa ata ctt aaa	gac aca gga aac aac	86196
Asp Val Pro Arg Val	Thr Gln Ile Leu Lys	Asp Thr Gly Asn Asn	
15775	15780	15785	
gcg att aca tca gca	ttg cgg tca ttg cga	tgg gac aat ctt cat	86241
Ala Ile Thr Ser Ala	Leu Arg Ser Leu Arg	Trp Asp Asn Leu His	
15790	15795	15800	
cca gcg gtc gag gag	gaa tct gtg gat tgt	gca aac ggt aca acg	86286
Pro Ala Val Glu Glu	Glu Ser Val Asp Cys	Ala Asn Gly Thr Thr	
15805	15810	15815	
agc ttg tta cgt gca	acg gag aaa ccg ttg	ctt tga actcagagtt	86332
Ser Leu Leu Arg Ala	Thr Glu Lys Pro Leu	Leu	
15820	15825		

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ctttgaagac	tttgactttg	atgagaatgt	aacagaggac	gccgataaat	ccacacaacg	86392									
ccgcccacga	gtgatcga	taacaccaaa	acgaaaacct	tcgggaaaga	gctcccattc	86452									
caaatgcgca	aaatgttaaa	ccctgataaa	ccctgataaa	cgttctaata	aaaacatcaa	86512									
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cgctactccc	accactgtt	tgatcgctcg	tataacagct	catcctcgcg	gtccgtttca	86632									
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gaatttctat	gtgcagggtt	tacttttcgt	atgtatcccc	gtacccgctc	gggtactctt	86752									
cttacggcac	cgtagaaccg	actgcgtttc	tgtcga	atgatgc	acgcatcaat	86812									
ctgagaagca	acatgacaac	ggaaaacacg	gccaggcaag	ccaaggttcc	ccgagttgtg	86872									
ggaattaacc	gtggagattg	aaccgatata	gggtcatata	atcgggccat	atacgagtgc	86932									
gcggcggttc	ccaacgtagc	acaggccacg	agcgttccca	gggacgggcc	tattaacacg	86992									
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acaagttcca	gcattaatga	tacaaatagg	atacatatcg	ccatcaacgc	agccatcaaa	87172									
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gcgctgtatc	cacctctatt	tccggaccat	accccccat	ctagggtggc	gttaaataac	87652									
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tcgtacggcg	agactttttc	agaacgcggc	cccttctttt	gagttccc	atg tct ccc	87889									
					Met Ser Pro										
aac Asn 15830	acc Thr	ggg Gly	gag Glu	agc Ser	aac Asn 15835	gcc Ala	gcc Ala	gtc Val	tat Tyr	gcg Ala 15840	tcc Ser	agt Ser	aca Thr	cag Gln	87934
ctc Leu 15845	gcg Ala	cgg Arg	gcg Ala	tta Leu	tat Tyr 15850	gga Gly	ggg Gly	gat Asp	ctg Leu	gtt Val 15855	tcg Ser	tgg Trp	att Ile	aaa Lys	87979

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cac His 15860	acc Thr	cac His	ccg Pro	gga Gly	att Ile 15865	agc Ser	ctg Leu	gaa Glu	ctg Leu	caa Gln 15870	ttg Leu	gat Asp	gtt Val	cca Pro	88024
gta Val 15875	aaa Lys	cta Leu	ata Ile	aaa Lys	cct Pro 15880	ggg Gly	atg Met	tca Ser	caa Gln	act Thr 15885	cgc Arg	ccg Pro	gta Val	acc Thr	88069
gtc Val 15890	gta Val	cgt Arg	gcc Ala	cct Pro	atg Met 15895	ggc Gly	tct Ser	ggg Gly	aaa Lys	aca Thr 15900	aca Thr	gcc Ala	ttg Leu	ctt Leu	88114
gag Glu 15905	tggt Trp	ctt Leu	caa Gln	cac His	gcg Ala 15910	tta Leu	aag Lys	gca Ala	gat Asp	att Ile 15915	agc Ser	gta Val	ctg Leu	gtt Val	88159
gtc Val 15920	tca Ser	tgt Cys	cgc Arg	cgt Arg	agc Ser 15925	ttt Phe	acc Thr	cag Gln	acg Thr	ttg Leu 15930	att Ile	caa Gln	cgg Arg	ttt Phe	88204
aac Asn 15935	gat Asp	gca Ala	ggc Gly	ctc Leu	tcc Ser 15940	gga Gly	ttc Phe	gta Val	aca Thr	tat Tyr 15945	ttg Leu	aca Thr	tcc Ser	gag Glu	88249
aca Thr 15950	tat Tyr	att Ile	atg Met	ggg Gly	ttt Phe 15955	aaa Lys	cgt Arg	ttg Leu	att Ile	gtg Val 15960	caa Gln	ctt Leu	gaa Glu	agc Ser	88294
cta Leu 15965	cac His	cgc Arg	gta Val	tcc Ser	agc Ser 15970	gaa Glu	gct Ala	atc Ile	gac Asp	agc Ser 15975	tac Tyr	gac Asp	gta Val	tta Leu	88339
ata Ile 15980	ctg Leu	gat Asp	gag Glu	gta Val	atg Met 15985	tca Ser	gtg Val	att Ile	gga Gly	caa Gln 15990	tta Leu	tac Tyr	tcc Ser	ccc Pro	88384
aca Thr 15995	atg Met	aga Arg	cgt Arg	ctt Leu	tcc Ser 16000	gcg Ala	gtt Val	gat Asp	agc Ser	cta Leu 16005	tta Leu	tat Tyr	cgt Arg	ctt Leu	88429
tta Leu 16010	aat Asn	cgc Arg	tgt Cys	tct Ser	caa Gln 16015	att Ile	atc Ile	gcg Ala	atg Met	gat Asp 16020	gct Ala	aca Thr	gta Val	aac Asn	88474
tcg Ser 16025	cag Gln	ttt Phe	att Ile	gat Asp	tta Leu 16030	atc Ile	tcc Ser	gga Gly	ttg Leu	cgt Arg 16035	gga Gly	gat Asp	gaa Glu	aac Asn	88519
ata Ile 16040	cac His	aca Thr	att Ile	gtg Val	tgt Cys 16045	aca Thr	tac Tyr	gcg Ala	gga Gly	gtt Val 16050	ggg Gly	ttc Phe	tcc Ser	gga Gly	88564
aga Arg 16055	act Thr	tcg Cys	acg Thr	atc Ile	ctg Leu 16060	cgt Arg	gat Asp	atg Met	ggc Gly	atc Ile 16065	gac Asp	acg Thr	ctt Leu	gtg Val	88609
cga Arg 16070	gtc Val	att Ile	aaa Lys	cga Arg	tct Ser 16075	cct Pro	gaa Glu	cac His	gag Glu	gat Asp 16080	gta Val	cgt Arg	acc Thr	ata Ile	88654
cac His 16085	caa Gln	cta Leu	cgt Arg	gga Gly	aca Thr 16090	ttt Phe	ttt Phe	gac Asp	gaa Glu	cta Leu 16095	gca Ala	cta Leu	cga Arg	tta Leu	88699

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caa Gln 16100	tgt Cys	ggg Gly	cat His	aac Asn	atc Ile 16105	tgt Cys	ata Ile	ttt Phe	tca Ser	tca Ser 16110	act Thr	tta Leu	tcg Ser	ttt Phe	88744
tcg Ser 16115	gag Glu	cta Leu	gtt Val	gct Ala	cag Gln 16120	ttt Phe	tgt Cys	gca Ala	ata Ile	ttt Phe 16125	aca Thr	gac Asp	tct Ser	att Ile	88789
ctt Leu 16130	att Ile	tta Leu	aac Asn	tca Ser	act Thr 16135	cgg Arg	ccc Pro	cta Leu	tgt Cys	aat Asn 16140	gta Val	aac Asn	gaa Glu	tggt Trp	88834
aaa Lys 16145	cat His	ttt Phe	cgc Arg	gtg Val	ttg Leu 16150	gtg Val	tac Tyr	act Thr	acc Thr	gtc Val 16155	gtg Val	acc Thr	gtt Val	gga Gly	88879
ttg Leu 16160	agt Ser	ttt Phe	gac Asp	atg Met	gct Ala 16165	cat His	ttt Phe	cat His	agc Ser	atg Met 16170	ttt Phe	gct Ala	tac Tyr	ata Ile	88924
aag Lys 16175	cca Pro	atg Met	tca Ser	tat Tyr	ggg Gly 16180	ccg Pro	gat Asp	atg Met	gta Val	tcg Ser 16185	gtc Val	tac Tyr	cag Gln	tca Ser	88969
tta Leu 16190	ggg Gly	cgt Arg	gta Val	cgt Arg	tta Leu 16195	ttg Leu	cta Leu	ctt Leu	aat Asn	gaa Glu 16200	gtt Val	ttg Leu	atg Met	tac Tyr	89014
gtc Val 16205	gat Asp	ggc Gly	tca Ser	agg Arg	acc Thr 16210	aga Arg	tgc Cys	gga Gly	ccc Pro	ctg Leu 16215	ttc Phe	tcg Ser	cca Pro	atg Met	89059
tta Leu 16220	cta Leu	aac Asn	ttt Phe	acc Thr	atc Ile 16225	gca Ala	aat Asn	aaa Lys	ttt Phe	caa Gln 16230	tggt Trp	ttt Phe	cct Pro	aca Thr	89104
cac His 16235	acc Thr	caa Gln	ata Ile	act Thr	aac Asn 16240	aaa Lys	ctg Leu	tgc Cys	tgt Cys	gca Ala 16245	ttt Phe	agg Arg	caa Gln	cga Arg	89149
tgt Cys 16250	gca Ala	aat Asn	gca Ala	ttt Phe	aca Thr 16255	cgc Arg	tcg Ser	aac Asn	acc Thr	cat His 16260	ctc Leu	ttc Phe	tca Ser	aga Arg	89194
ttt Phe 16265	aaa Lys	tac Tyr	aaa Lys	cac His	ctt Leu 16270	ttc Phe	gag Glu	aga Arg	tgc Cys	tct Ser 16275	ctt Leu	tggt Trp	agt Ser	tta Leu	89239
gcc Ala 16280	gat Asp	agc Ser	att Ile	aat Asn	atc Ile 16285	tta Leu	caa Gln	act Thr	ctt Leu	ttg Leu 16290	gcc Ala	tct Ser	aac Asn	caa Gln	89284
att Ile 16295	ttg Leu	gtt Val	gta Val	ttg Leu	gat Asp 16300	ggc Gly	atg Met	ggt Gly	cca Pro	ata Ile 16305	acg Thr	gac Asp	gtt Val	tcc Ser	89329
cca Pro 16310	gtt Val	caa Gln	ttt Phe	tgt Cys	gca Ala 16315	ttt Phe	ata Ile	cac His	gat Asp	ctc Leu 16320	aga Arg	cat His	agc Ser	gct Ala	89374
aac Asn	gcc Ala	gta Val	gct Ala	tcc Ser	tgt Cys	atg Met	cgt Arg	tct Ser	ctt Leu	aga Arg	cag Gln	gac Asp	aat Asn	gac Asp	89419

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16325						16330											
agc	tgc	ttg	acc	gat	ttt	ggc	cct	tcc	gga	ttt	atg	gcc	gat	aac			89464
Ser	Cys	Leu	Thr	Asp	Phe	Gly	Pro	Ser	Gly	Phe	Met	Ala	Asp	Asn			
16340					16345					16350							
att	acc	gcg	ttt	atg	gaa	aag	tat	ctt	atg	gag	tca	att	aat	acc			89509
Ile	Thr	Ala	Phe	Met	Glu	Lys	Tyr	Leu	Met	Glu	Ser	Ile	Asn	Thr			
16355					16360					16365							
gaa	gaa	caa	att	aaa	gta	ttt	aaa	gcc	ctt	gca	tgt	cca	ata	gaa			89554
Glu	Glu	Gln	Ile	Lys	Val	Phe	Lys	Ala	Leu	Ala	Cys	Pro	Ile	Glu			
16370					16375					16380							
cag	cct	aga	cta	gtc	aat	acg	gca	ata	ttg	ggg	gcg	tgt	ata	cga			89599
Gln	Pro	Arg	Leu	Val	Asn	Thr	Ala	Ile	Leu	Gly	Ala	Cys	Ile	Arg			
16385					16390					16395							
ata	cct	gaa	gcg	ttg	gaa	gca	ttt	gac	gta	ttt	caa	aaa	ata	tac			89644
Ile	Pro	Glu	Ala	Leu	Glu	Ala	Phe	Asp	Val	Phe	Gln	Lys	Ile	Tyr			
16400					16405					16410							
acg	cac	tac	gct	tcc	ggc	tgg	ttt	ccc	gtc	ctg	gac	aaa	acc	ggg			89689
Thr	His	Tyr	Ala	Ser	Gly	Trp	Phe	Pro	Val	Leu	Asp	Lys	Thr	Gly			
16415					16420					16425							
gaa	ttt	agc	atc	gcg	act	ata	act	acc	gcc	cca	aat	tta	acc	aca			89734
Glu	Phe	Ser	Ile	Ala	Thr	Ile	Thr	Thr	Ala	Pro	Asn	Leu	Thr	Thr			
16430					16435					16440							
cat	tgg	gag	ctg	ttt	cgc	cgt	tgt	gcc	tat	att	gca	aaa	aca	ctc			89779
His	Trp	Glu	Leu	Phe	Arg	Arg	Cys	Ala	Tyr	Ile	Ala	Lys	Thr	Leu			
16445					16450					16455							
aag	tgg	aat	ccg	tcc	acc	gaa	ggc	tgt	gta	aca	caa	ggt	ttg	gat			89824
Lys	Trp	Asn	Pro	Ser	Thr	Glu	Gly	Cys	Val	Thr	Gln	Val	Leu	Asp			
16460					16465					16470							
acg	gac	att	aat	aca	ctt	ttc	aat	caa	cac	ggg	gat	tcg	ctg	gct			89869
Thr	Asp	Ile	Asn	Thr	Leu	Phe	Asn	Gln	His	Gly	Asp	Ser	Leu	Ala			
16475					16480					16485							
caa	cta	ata	ttt	gag	gtt	atg	cgc	tgt	aac	gtt	act	gac	gct	aag			89914
Gln	Leu	Ile	Phe	Glu	Val	Met	Arg	Cys	Asn	Val	Thr	Asp	Ala	Lys			
16490					16495					16500							
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Ile	Ile	Leu	Asn	Arg	Pro	Val	Trp	Arg	Thr	Thr	Gly	Phe	Leu	Asp			
16505					16510					16515							
gga	tgc	cat	aat	caa	tgc	ttc	cgt	cca	atc	cct	aca	aaa	cac	gaa			90004
Gly	Cys	His	Asn	Gln	Cys	Phe	Arg	Pro	Ile	Pro	Thr	Lys	His	Glu			
16520					16525					16530							
tat	aac	att	gct	cta	ttt	cgt	tta	att	tgg	gaa	caa	tta	ttt	ggc			90049
Tyr	Asn	Ile	Ala	Leu	Phe	Arg	Leu	Ile	Trp	Glu	Gln	Leu	Phe	Gly			
16535					16540					16545							
gcc	cgc	gta	act	aaa	agt	acc	cag	acc	ttt	ccg	gga	agt	act	cgt			90094
Ala	Arg	Val	Thr	Lys	Ser	Thr	Gln	Thr	Phe	Pro	Gly	Ser	Thr	Arg			
16550					16555					16560							
gtg	aaa	aac	cta	aaa	aaa	aaa	gat	cta	gaa	act	tta	ctt	gat	tca			90139

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Val 16565	Lys	Asn	Leu	Lys	Lys 16570	Lys	Asp	Leu	Glu	Thr 16575	Leu	Leu	Asp	Ser	
att Ile 16580	aac Asn	gtg Val	gat Asp	cgt Arg	tct Ser 16585	gca Ala	tgt Cys	cgt Arg	acc Thr	tac Tyr 16590	cgc Arg	cag Gln	ttg Leu	tat Tyr	90184
aac Asn 16595	ctg Leu	ctt Leu	atg Met	agc Ser	cag Gln 16600	cgc Arg	cat His	tcg Ser	ttc Phe	tct Ser 16605	caa Gln	cag Gln	cgt Arg	tac Tyr	90229
aaa Lys 16610	att Ile	act Thr	gcc Ala	ccc Pro	gct Ala 16615	tgg Trp	gca Ala	cgc Arg	cac His	gtg Val 16620	tat Tyr	ttt Phe	caa Gln	gca Ala	90274
cat His 16625	caa Gln	atg Met	cac His	ttg Leu	gcc Ala 16630	ccg Pro	cat His	gcc Ala	gaa Glu	gcc Ala 16635	atg Met	cta Leu	caa Gln	tta Leu	90319
gcg Ala 16640	cta Leu	tcg Ser	gaa Glu	ctg Leu	tcc Ser 16645	ccg Pro	gga Gly	tcg Ser	tgg Trp	ccg Pro 16650	cgg Arg	ata Ile	aac Asn	ggg Gly	90364
gcg Ala 16655	gta Val	aat Asn	ttt Phe	gaa Glu	agt Ser 16660	tta Leu	taa	cccg	ttaata	ccat	atat	atgg			90408
acatccatag	gggggggttac	ataaatacta	agcctctgta	caacacaaag	ggcctctaac										90468
aatgcactga	accacaacca	agct	atg	gac	gca	acg	cag	att	acc	ttg					90516
			Met	Asp	Ala	Thr 16665	Gln	Ile	Thr	Leu					
gtt Val 16670	aga Arg	gaa Glu	agc Ser	gga Gly	cac His 16675	att Ile	tgt Cys	gcc Ala	gca Ala	agc Ser 16680	ata Ile	tac Tyr	aca Thr	tcc Ser	90561
tgg Trp 16685	aca Thr	cag Gln	tcc Ser	gga Gly	caa Gln 16690	tta Leu	aca Thr	cag Gln	aac Asn	ggg Gly 16695	ctt Leu	tcc Ser	gtg Val	tta Leu	90606
tac Tyr 16700	tac Tyr	tta Leu	tta Leu	tgc Cys	aaa Lys 16705	aac Asn	tca Ser	tgt Cys	ggg Gly	aaa Lys 16710	tac Tyr	gtc Val	cct Pro	aag Lys	90651
ttt Phe 16715	gcc Ala	gaa Glu	att Ile	acc Thr	gta Val 16720	caa Gln	caa Gln	gag Glu	gat Asp	tta Leu 16725	tgt Cys	cgc Arg	tac Tyr	tcc Ser	90696
agg Arg 16730	cat His	ggg Gly	ggg Gly	agt Ser	gtt Val 16735	tct Ser	gcg Ala	gca Ala	acg Thr	ttt Phe 16740	gcg Ala	tct Ser	atc Ile	tgc Cys	90741
agg Arg 16745	gcg Ala	gcg Ala	tcc Ser	tcg Ser	gct Ala 16750	gcg Ala	tta Leu	gac Asp	gcc Ala	tgg Trp 16755	ccc Pro	ctt Leu	gaa Glu	cca Pro	90786
ctg Leu 16760	ggg Gly	aac Asn	gca Ala	gac Asp	acc Thr 16765	tgg Trp	cgt Arg	tgt Cys	ctc Leu	cat His 16770	ggc Gly	act Thr	gcc Ala	ctg Leu	90831
gcc Ala	act Thr	tta Leu	cgg Arg	cgc Arg	gta Val	tta Leu	ggg Gly	ttt Phe	aaa Lys	tcg Ser	ttt Phe	tat Tyr	tcg Ser	cca Pro	90876

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16775					16780					16785						
gta Val 16790	aca Thr	ttc Phe	gag Glu	act Thr	gat Asp 16795	acg Thr	aat Asn	aca Thr	ggt Gly	ctt Leu 16800	ctg Leu	tta Leu	aaa Lys	aca Thr	90921	
atc Ile 16805	ccc Pro	gat Asp	gaa Glu	cac His	gcg Ala 16810	ttg Leu	aat Asn	aat Asn	gac Asp	aac Asn 16815	acg Thr	cca Pro	tct Ser	acc Thr	90966	
gga Gly 16820	gta Val	ttg Leu	agg Arg	gct Ala	aat Asn 16825	ttt Phe	ccc Pro	gtg Val	gcc Ala	att Ile 16830	gat Asp	ggt Val	tca Ser	gca Ala	91011	
gtc Val 16835	agc Ser	gca Ala	tgt Cys	aac Asn	gcc Ala 16840	cac His	acg Thr	caa Gln	ggt Gly	acg Thr 16845	tcg Ser	cta Leu	gcc Ala	tac Tyr	91056	
gcc Ala 16850	cgc Arg	ctg Leu	acc Thr	gca Ala	ctt Leu 16855	aaa Lys	tct Ser	aac Asn	ggt Gly	gac Asp 16860	acc Thr	cag Gln	caa Gln	caa Gln	91101	
aca Thr 16865	cct Pro	tta Leu	gac Asp	gtg Val	gag Glu 16870	gta Val	att Ile	aca Thr	cca Pro	aag Lys 16875	gcc Ala	tac Tyr	ata Ile	cgt Arg	91146	
cgg Arg 16880	aaa Lys	tat Tyr	aag Lys	tct Ser	acg Thr 16885	ttt Phe	tcc Ser	ccc Pro	cct Pro	ata Ile 16890	gag Glu	cgg Arg	gaa Glu	ggc Gly	91191	
caa Gln 16895	acc Thr	tcc Ser	gat Asp	ttg Leu	ttt Phe 16900	aac Asn	ctt Leu	gaa Glu	gaa Glu	cgc Arg 16905	cgc Arg	ttg Leu	ggt Val	ctt Leu	91236	
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ata Ile 16940	tta Leu	gca Ala	aca Thr	tat Tyr	aga Arg 16945	ctg Leu	tggt Trp	tac Tyr	gcg Ala	gcg Ala 16950	gcg Ala	ttt Phe	gga Gly	aaa Lys	91371	
ccc Pro 16955	ggg Gly	ggt Val	gtc Val	cgt Arg	cca Pro 16960	atc Ile	ttt Phe	gcg Ala	tat Tyr	tta Leu 16965	ggc Gly	ccg Pro	gaa Glu	ctc Leu	91416	
aat Asn 16970	ccg Pro	aag Lys	ggt Gly	gaa Glu	gac Asp 16975	aga Arg	gac Asp	tac Tyr	ttt Phe	tgt Cys 16980	act Thr	gtc Val	gga Gly	ttt Phe	91461	
ccc Pro 16985	gga Gly	tggt Trp	acc Thr	act Thr	ctt Leu 16990	cgg Arg	aca Thr	caa Gln	act Thr	cca Pro 16995	gcc Ala	gtc Val	gaa Glu	tct Ser	91506	
att Ile 17000	cgc Arg	acg Thr	gct Ala	acg Thr	gag Glu 17005	atg Met	tac Tyr	atg Met	gaa Glu	acg Thr 17010	gat Asp	ggg Gly	ttg Leu	tggt Trp	91551	
cca	gta	acc	ggt	att	cag	gcc	ttt	cat	tat	cta	gcc	ccc	tggt	gga	91596	

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Pro 17015	Val	Thr	Gly	Ile	Gln 17020	Ala	Phe	His	Tyr	Leu 17025	Ala	Pro	Trp	Gly	
cag Gln 17030	cat His	ccc Pro	ccc Pro	tta Leu	cct Pro 17035	ccg Pro	cgg Arg	gtg Val	cag Gln	gat Asp 17040	ctt Leu	att Ile	ggg Gly	caa Gln	91641
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act Thr 17420	gac Asp	gat Asp	ccc Pro	ctt Leu	gct Ala 17425	tca Ser	tat Tyr	aac Asn	ttc Phe	ttg Leu 17430	ttt Phe	tta Leu	tga		92808
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Tyr Leu Asn Phe Thr Ser Met His Ser Ile Gln Pro Ile Leu Ser	17465 17470 17475
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Pro Arg Leu Cys Trp Phe Lys Gln Leu Leu Glu Leu Gln Ala Pro	17495 17500 17505
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Pro Glu Met Gln Arg Asn Glu Leu Pro Phe Ser Val Tyr Leu Ile	17510 17515 17520
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Asn Glu Ala Ile Asp Cys Ile Ile Thr Gly Ser Thr Arg Val Ala	17540 17545 17550
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Ala Gln Asn Val His Ala Lys Leu Ser Thr Ala Tyr Ala Ser Arg	17555 17560 17565

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tta Leu	gac Asp 19795	ccc Pro	ccc Pro	gag Glu	att Ile	gaa Glu 19800	ccg Pro	ggt Gly	gtc Val	ttg Leu	aaa Lys 19805	gta Val	ctt Leu	cgg Arg	116677
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aag Lys	agc Ser	ccg Pro	aag Lys	aaa Lys	aag Lys	act Thr	ttg Leu	aag Lys	gtt Val	aag Lys	gtc Val	cca Pro	ctc Leu	ccg Pro	121537

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agt Ser 21015	cca Pro	tcc Ser	cga Arg	ggg Gly	gga Gly 21020	ctg Leu	tct Ser	gtg Val	gtc Val	ctg Leu 21025	gca Ala	gcc Ala	ctg Leu	agt Ser	123427
aac Asn 21030	cgg Arg	ttg Leu	tgc Cys	ctg Leu	ccg Pro 21035	agc Ser	act Thr	cat His	gcc Ala	tggt Trp 21040	gcc Ala	ggg Gly	aac Asn	tggt Trp	123472
acc Thr 21045	ggc Gly	ccg Pro	ccg Pro	gac Asp	gtg Val 21050	tcc Ser	gct Ala	ttg Leu	aac Asn	gcc Ala 21055	cgg Arg	ggc Gly	gtt Val	tta Leu	123517
tta Leu 21060	ctg Leu	tcg Ser	acc Thr	cga Arg	gac Asp 21065	ctg Leu	gcc Ala	ttt Phe	gcc Ala	ggg Gly 21070	gcc Ala	gtc Val	gag Glu	tat Tyr	123562
cta Leu 21075	ggc Gly	tcg Ser	cgg Arg	ttg Leu	gcc Ala 21080	tct Ser	gcc Ala	cgg Arg	cgc Arg	cgg Arg 21085	ttg Leu	ctg Leu	gtg Val	ttg Leu	123607
gac Asp 21090	gcg Ala	gtg Val	gcc Ala	ctc Leu	gag Glu 21095	agg Arg	tggt Trp	ccc Pro	agg Arg	gat Asp 21100	gga Gly	ccc Pro	gct Ala	ttg Leu	123652

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tct Ser 21105	cag Gln	tat Tyr	cac His	gtg Val	tac Tyr 21110	gtc Val	cgg Arg	gcc Ala	ccg Pro	gcg Ala 21115	cga Arg	ccg Pro	gac Asp	gcc Ala	123697
cag Gln 21120	gcc Ala	gtc Val	gtc Val	cga Arg	tgg Trp 21125	cca Pro	gac Asp	tcg Ser	gcg Ala	gtc Val 21130	aca Thr	gaa Glu	gga Gly	ctc Leu	123742
gcc Ala 21135	cgg Arg	gcc Ala	gtg Val	ttt Phe	gca Ala 21140	tcg Ser	tcg Ser	cgc Arg	acc Thr	ttt Phe 21145	ggg Gly	cca Pro	gcg Ala	agt Ser	123787
ttt Phe 21150	gct Ala	cgt Arg	atc Ile	gag Glu	act Thr 21155	gcg Ala	ttt Phe	gcc Ala	aac Asn	ctg Leu 21160	tac Tyr	ccg Pro	ggc Gly	gaa Glu	123832
caa Gln 21165	ccc Pro	ctg Leu	tgt Cys	ttg Leu	tgc Cys 21170	cgc Arg	ggg Gly	ggg Gly	aac Asn	gtc Val 21175	gca Ala	tac Tyr	acc Thr	gtg Val	123877
tgt Cys 21180	acc Thr	cgc Arg	gcg Ala	ggc Gly	ccc Pro 21185	aag Lys	acc Thr	cgc Arg	gtc Val	ccc Pro 21190	ctg Leu	tcg Ser	ccc Pro	cgt Arg	123922
gaa Glu 21195	tac Tyr	cgg Arg	cag Gln	tac Tyr	gtg Val 21200	ctg Leu	ccg Pro	ggg Gly	ttt Phe	gac Asp 21205	ggg Gly	tgc Cys	aag Lys	gac Asp	123967
ctc Leu 21210	gcg Ala	cga Arg	cag Gln	tct Ser	cgg Arg 21215	ggg Gly	ctg Leu	ggg Gly	ctc Leu	ggg Gly 21220	gca Ala	gcc Ala	gac Asp	ttt Phe	124012
gtg Val 21225	gac Asp	gag Glu	gcg Ala	gca Ala	cat His 21230	agc Ser	cac His	cgc Arg	gca Ala	gca Ala 21235	aac Asn	cga Arg	tgg Trp	ggc Gly	124057
ctg Leu 21240	ggg Gly	gcc Ala	gcg Ala	ctt Leu	cga Arg 21245	ccc Pro	gtc Val	ttc Phe	ctt Leu	ccc Pro 21250	gag Glu	gga Gly	cgg Arg	aga Arg	124102
ccg Pro 21255	ggg Gly	gcc Ala	gcc Ala	ggg Gly	ccg Pro 21260	gag Glu	gcc Ala	ggc Gly	gac Asp	gta Val 21265	ccc Pro	acc Thr	tgg Trp	gcg Ala	124147
agg Arg 21270	gtg Val	ttt Phe	tgc Cys	cgc Arg	cac His 21275	gcc Ala	ctg Leu	ctg Leu	gaa Glu	ccc Pro 21280	gac Asp	cct Pro	gcc Ala	gca Ala	124192
gaa Glu 21285	cca Pro	ctc Leu	gtg Val	ctt Leu	cca Pro 21290	ccc Pro	gtg Val	gcc Ala	ggg Gly	cgg Arg 21295	tcg Ser	gtg Val	gcg Ala	ctg Leu	124237
tat Tyr 21300	gcg Ala	tcg Ser	gcg Ala	gac Asp	gag Glu 21305	gct Ala	cgg Arg	aat Asn	gcc Ala	ctc Leu 21310	ccc Pro	ccg Pro	att Ile	ccc Pro	124282
aga Arg 21315	gta Val	atg Met	tgg Trp	ccg Pro	ccc Pro 21320	ggg Gly	ttt Phe	ggg Gly	gcc Ala	gcg Ala 21325	gag Glu	acg Thr	gtg Val	ttg Leu	124327
gag Glu	ggg Gly	agc Ser	gac Asp	gga Gly	aca Thr	cgg Arg	ttc Phe	gtg Val	ttc Phe	gga Gly	cac His	cac His	ggg Gly	ggc Gly	124372

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21330 21335 21340
 tcg gaa cgg ccg tca gaa acc cag gcg ggg cga cag cgg cgc acc 124417
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 21345 21350 21355
 gca gac gac aga gaa cac gct ttg gag ctg gac gat tgg gag gtg 124462
 Ala Asp Asp Arg Glu His Ala Leu Glu Leu Asp Asp Trp Glu Val
 21360 21365 21370
 ggg tgt gaa gac gcg tgg gac agc gag gag ggg ggc ggg gac gac 124507
 Gly Cys Glu Asp Ala Trp Asp Ser Glu Glu Gly Gly Gly Asp Asp
 21375 21380 21385
 ggg gac gca ccg ggg tca tcc ttt ggg gtg agc atc gtg tcg gtg 124552
 Gly Asp Ala Pro Gly Ser Ser Phe Gly Val Ser Ile Val Ser Val
 21390 21395 21400
 gcc ccg ggt gtg ctg cga gac cgc cgg gtg ggt ttg cgc ccg gcg 124597
 Ala Pro Gly Val Leu Arg Asp Arg Arg Val Gly Leu Arg Pro Ala
 21405 21410 21415
 gtc aag gtg gag ctg ttg tcc tcg tcc tcg tcc tcc gag gac gag 124642
 Val Lys Val Glu Leu Leu Ser Ser Ser Ser Ser Ser Glu Asp Glu
 21420 21425 21430
 gac gat gtg tgg gga ggg cgc ggg ggg agg agc ccc ccg cag agt 124687
 Asp Asp Val Trp Gly Gly Arg Gly Gly Arg Ser Pro Pro Gln Ser
 21435 21440 21445
 cgg ggg tga cggagtcgcc tccttttctc gtgagcgcca ctggcgcgcg 124736
 Arg Gly
 21450
 gactgtttgt tgtaataaaa agcgggaacgg tttttatgaa aaaagtgtct gtctgtctgt 124796
 gcgggcgggc gacgggcggg ctggtcggac cccccccga aaataacccc cccccggttt 124856
 ctgggcgccc ggcggacccc gggagagg 124884

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 <212> PRT
 <213> Varicella zoster

<400> 9

Met His Val Ile Ser Glu Thr Leu Ala Tyr Gly His Val Pro Ala Phe
 1 5 10 15

Ile Met Gly Ser Thr Leu Val Arg Pro Ser Leu Asn Ala Thr Ala Glu
 20 25 30

Glu Asn Pro Ala Ser Glu Thr Arg Cys Leu Leu Arg Val Leu Ala Gly
 35 40 45

Arg Thr Val Asp Leu Pro Gly Gly Gly Thr Leu His Ile Thr Cys Thr
 50 55 60

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Lys Thr Tyr Val Ile Ile Gly Lys Tyr Ser Lys Pro Gly Glu Arg Leu
65 70 75 80

Ser Leu Ala Arg Leu Ile Gly Arg Ala Met Thr Pro Gly Gly Ala Arg
85 90 95

Thr Phe Ile Ile Leu Ala Met Lys Glu Lys Arg Ser Thr Thr Leu Gly
100 105 110

Tyr Glu Cys Gly Thr Gly Leu His Leu Leu Ala Pro Ser Met Gly Thr
115 120 125

Phe Leu Arg Thr His Gly Leu Ser Asn Arg Asp Leu Cys Leu Trp Arg
130 135 140

Gly Asn Ile Tyr Asp Met His Met Gln Arg Leu Met Phe Trp Glu Asn
145 150 155 160

Ile Ala Gln Asn Thr Thr Glu Thr Pro Cys Ile Thr Ser Thr Leu Thr
165 170 175

Cys Asn Leu Thr Glu Asp Ser Gly Glu Ala Ala Leu Thr Thr Ser Asp
180 185 190

Arg Pro Thr Leu Pro Thr Leu Thr Ala Gln Gly Arg Pro Thr Val Ser
195 200 205

Asn Ile Arg Gly Ile Leu Lys Gly Ser Pro Arg Gln Gln Pro Val Cys
210 215 220

His Arg Val Arg Phe Ala Glu Pro Thr Glu Gly Val Leu Met
225 230 235

<210> 10
<211> 259
<212> PRT
<213> Varicella zoster

<400> 10

Met Gln Thr Val Cys Ala Ser Leu Cys Gly Tyr Ala Arg Ile Pro Thr
1 5 10 15

Glu Glu Pro Ser Tyr Glu Glu Val Arg Val Asn Thr His Pro Gln Gly
20 25 30

Ala Ala Leu Leu Arg Leu Gln Glu Ala Leu Thr Ala Val Asn Gly Leu
35 40 45

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Leu Pro Ala Pro Leu Thr Leu Glu Asp Val Val Ala Ser Ala Asp Asn
 50 55 60
 Thr Arg Arg Leu Val Arg Ala Gln Ala Leu Ala Arg Thr Tyr Ala Ala
 65 70 75 80
 Cys Ser Arg Asn Ile Glu Cys Leu Lys Gln His His Phe Thr Glu Asp
 85 90 95
 Asn Pro Gly Leu Asn Ala Val Val Arg Ser His Met Glu Asn Ser Lys
 100 105 110
 Arg Leu Ala Asp Met Cys Leu Ala Ala Ile Thr His Leu Tyr Leu Ser
 115 120 125
 Val Gly Ala Val Asp Val Thr Thr Asp Asp Ile Val Asp Gln Thr Leu
 130 135 140
 Arg Met Thr Ala Glu Ser Glu Val Val Met Ser Asp Val Val Leu Leu
 145 150 155 160
 Glu Lys Thr Leu Gly Val Val Ala Lys Pro Gln Ala Ser Phe Asp Val
 165 170 175
 Ser His Asn His Glu Leu Ser Ile Ala Lys Gly Glu Asn Val Gly Leu
 180 185 190
 Lys Thr Ser Pro Ile Lys Ser Glu Ala Thr Gln Leu Ser Glu Ile Lys
 195 200 205
 Pro Pro Leu Ile Glu Val Ser Asp Asn Asn Thr Ser Asn Leu Thr Lys
 210 215 220
 Lys Thr Tyr Pro Thr Glu Thr Leu Gln Pro Val Leu Thr Pro Lys Gln
 225 230 235 240
 Thr Gln Asp Val Gln Arg Thr Thr Pro Ala Ile Lys Lys Ser His Val
 245 250 255
 Met Leu Val

<210> 11
 <211> 87
 <212> PRT
 <213> Varicella zoster
 <400> 11

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Met Gly Ser Ile Thr Ala Ser Phe Ile Leu Ile Thr Met Gln Ile Leu
1 5 10 15

Phe Phe Cys Glu Asp Ser Ser Gly Glu Pro Asn Phe Ala Glu Arg Asn
20 25 30

Phe Trp His Ala Ser Cys Ser Ala Arg Gly Val Tyr Ile Asp Gly Ser
35 40 45

Met Ile Thr Thr Leu Phe Phe Tyr Ala Ser Leu Leu Gly Val Cys Val
50 55 60

Ala Leu Ile Ser Leu Ala Tyr His Ala Cys Phe Arg Leu Phe Thr Arg
65 70 75 80

Ser Val Leu Arg Ser Thr Trp
85

<210> 12
<211> 302
<212> PRT
<213> Varicella zoster

<400> 12

Met Ala Ser Ser Asp Gly Asp Arg Leu Cys Arg Ser Asn Ala Val Arg
1 5 10 15

Arg Lys Thr Thr Pro Ser Tyr Ser Gly Gln Tyr Arg Thr Ala Arg Arg
20 25 30

Ser Val Val Val Gly Pro Pro Asp Asp Ser Asp Asp Ser Leu Gly Tyr
35 40 45

Ile Thr Thr Val Gly Ala Asp Ser Pro Ser Pro Val Tyr Ala Asp Leu
50 55 60

Tyr Phe Glu His Lys Asn Thr Thr Pro Arg Val His Gln Pro Asn Asp
65 70 75 80

Ser Ser Gly Ser Glu Asp Asp Phe Glu Asp Ile Asp Glu Val Val Ala
85 90 95

Ala Phe Arg Glu Ala Arg Leu Arg His Glu Leu Val Glu Asp Ala Val
100 105 110

Tyr Glu Asn Pro Leu Ser Val Glu Lys Pro Ser Arg Ser Phe Thr Lys
115 120 125

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Asn Ala Ala Val Lys Pro Lys Leu Glu Asp Ser Pro Lys Arg Ala Pro
130 135 140

Pro Gly Ala Gly Ala Ile Ala Ser Gly Arg Pro Ile Ser Phe Ser Thr
145 150 155 160

Ala Pro Lys Thr Ala Thr Ser Ser Trp Cys Gly Pro Thr Pro Ser Tyr
165 170 175

Asn Lys Arg Val Phe Cys Glu Ala Val Arg Arg Val Ala Ala Met Gln
180 185 190

Ala Gln Lys Ala Ala Glu Ala Ala Trp Asn Ser Asn Pro Pro Arg Asn
195 200 205

Asn Ala Glu Leu Asp Arg Leu Leu Thr Gly Ala Val Ile Arg Ile Thr
210 215 220

Val His Glu Gly Leu Asn Leu Ile Gln Ala Ala Asn Glu Ala Asp Leu
225 230 235 240

Gly Glu Gly Ala Ser Val Ser Lys Arg Gly His Asn Arg Lys Thr Gly
245 250 255

Asp Leu Gln Gly Gly Met Gly Asn Glu Pro Met Tyr Ala Gln Val Arg
260 265 270

Lys Pro Lys Ser Arg Thr Asp Thr Gln Thr Thr Gly Arg Ile Thr Asn
275 280 285

Arg Ser Arg Ala Arg Ser Ala Ser Arg Thr Asp Thr Arg Lys
290 295 300

<210> 13
<211> 410
<212> PRT
<213> Varicella zoster

<400> 13

Met Glu Cys Asn Leu Gly Thr Glu His Pro Ser Thr Asp Thr Trp Asn
1 5 10 15

Arg Ser Lys Thr Glu Gln Ala Val Val Asp Ala Phe Asp Glu Ser Leu
20 25 30

Phe Gly Asp Val Ala Ser Asp Ile Gly Phe Glu Thr Ser Leu Tyr Ser
35 40 45

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His Ala Val Lys Thr Ala Pro Ser Pro Pro Trp Val Ala Ser Pro Lys
 50 55 60
 Ile Leu Tyr Gln Gln Leu Ile Arg Asp Leu Asp Phe Ser Glu Gly Pro
 65 70 75 80
 Arg Leu Leu Ser Cys Leu Glu Thr Trp Asn Glu Asp Leu Phe Ser Cys
 85 90 95
 Phe Pro Ile Asn Glu Asp Leu Tyr Ser Asp Met Met Val Leu Ser Pro
 100 105 110
 Asp Pro Asp Asp Val Ile Ser Thr Val Ser Thr Lys Asp His Val Glu
 115 120 125
 Met Phe Asn Leu Thr Thr Arg Gly Ser Val Arg Leu Pro Ser Pro Pro
 130 135 140
 Lys Gln Pro Thr Gly Leu Pro Ala Tyr Val Gln Glu Val Gln Asp Ser
 145 150 155 160
 Phe Thr Val Glu Leu Arg Ala Arg Glu Glu Ala Tyr Thr Lys Leu Leu
 165 170 175
 Val Thr Tyr Cys Lys Ser Ile Ile Arg Tyr Leu Gln Gly Thr Ala Lys
 180 185 190
 Arg Thr Thr Ile Gly Leu Asn Ile Gln Asn Pro Asp Gln Lys Ala Tyr
 195 200 205
 Thr Gln Leu Arg Gln Ser Ile Leu Leu Arg Tyr Tyr Arg Glu Val Ala
 210 215 220
 Ser Leu Ala Arg Leu Leu Tyr Leu His Leu Tyr Leu Thr Val Thr Arg
 225 230 235 240
 Glu Phe Ser Trp Arg Leu Tyr Ala Ser Gln Ser Ala His Pro Asp Val
 245 250 255
 Phe Ala Ala Leu Lys Phe Thr Trp Thr Glu Arg Arg Gln Phe Thr Cys
 260 265 270
 Ala Phe His Pro Val Leu Cys Asn His Gly Ile Val Leu Leu Glu Gly
 275 280 285
 Lys Pro Leu Thr Ala Ser Ala Leu Arg Glu Ile Asn Tyr Arg Arg Arg
 290 295 300

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Glu Leu Gly Leu Pro Leu Val Arg Cys Gly Leu Val Glu Glu Asn Lys
305 310 315 320

Ser Pro Leu Val Gln Gln Pro Ser Phe Ser Val His Leu Pro Arg Ser
325 330 335

Val Gly Phe Leu Thr His His Ile Lys Arg Lys Leu Asp Ala Tyr Ala
340 345 350

Val Lys His Pro Gln Glu Pro Arg His Val Arg Ala Asp His Pro Tyr
355 360 365

Ala Lys Val Val Glu Asn Arg Asn Tyr Gly Ser Ser Ile Glu Ala Met
370 375 380

Ile Leu Ala Pro Pro Ser Pro Ser Glu Ile Leu Pro Gly Asp Pro Pro
385 390 395 400

Arg Pro Pro Thr Cys Gly Phe Leu Thr Arg
405 410

<210> 14
<211> 819
<212> PRT
<213> Varicella zoster

<400> 14

Met Gln Ser Gly His Tyr Asn Arg Arg Gln Ser Arg Arg Gln Arg Ile
1 5 10 15

Ser Ser Asn Thr Thr Asp Ser Pro Arg His Thr His Gly Thr Arg Tyr
20 25 30

Arg Ser Thr Asn Trp Tyr Thr His Pro Pro Gln Ile Leu Ser Asn Ser
35 40 45

Glu Thr Leu Val Ala Val Gln Glu Leu Leu Asn Ser Glu Met Asp Gln
50 55 60

Asp Ser Ser Ser Asp Ala Ser Asp Asp Phe Pro Gly Tyr Ala Leu His
65 70 75 80

His Ser Thr Tyr Asn Gly Ser Glu Gln Asn Thr Ser Thr Ser Arg His
85 90 95

Glu Asn Arg Ile Phe Lys Leu Thr Glu Arg Glu Ala Asn Glu Glu Ile
100 105 110

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Asn Ile Asn Thr Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
 115 120 125
 Glu Ala Glu Glu Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
 130 135 140
 Glu Ala Glu Glu Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
 145 150 155 160
 Glu Ala Glu Glu Asp Ala Ile Asp Asp Glu Gly Glu Ala Glu Glu Gly
 165 170 175
 Glu Ala Glu Glu Gly Glu Ala Glu Glu Gly Glu Ala Glu Glu Asp Ala
 180 185 190
 Ile Asp Asp Glu Gly Glu Ala Glu Glu Asp Ala Ala Glu Glu Asp Ala
 195 200 205
 Ile Asp Asp Glu Gly Glu Ala Glu Glu Asp Tyr Phe Ser Val Ser Gln
 210 215 220
 Val Cys Ser Arg Asp Ala Asp Glu Val Tyr Phe Thr Leu Asp Pro Glu
 225 230 235 240
 Ile Ser Tyr Ser Thr Asp Leu Arg Ile Ala Lys Val Met Glu Pro Ala
 245 250 255
 Val Ser Lys Glu Leu Asn Val Ser Lys Arg Cys Val Glu Pro Val Thr
 260 265 270
 Leu Thr Gly Ser Met Leu Ala His Asn Gly Phe Asp Glu Ser Trp Phe
 275 280 285
 Ala Met Arg Glu Cys Thr Arg Arg Glu Tyr Ile Thr Val Gln Gly Leu
 290 295 300
 Tyr Asp Pro Ile His Leu Arg Tyr Gln Phe Asp Thr Ser Arg Met Thr
 305 310 315 320
 Pro Pro Gln Ile Leu Arg Thr Ile Pro Ala Leu Pro Asn Met Thr Leu
 325 330 335
 Gly Glu Leu Leu Leu Ile Phe Pro Ile Glu Phe Met Ala Gln Pro Ile
 340 345 350
 Ser Ile Glu Arg Ile Leu Val Glu Asp Val Phe Leu Asp Arg Arg Ala

355

360

365

Ser Ser Lys Thr His Lys Tyr Gly Pro Arg Trp Asn Ser Val Tyr Ala
 370 375 380
 Leu Pro Tyr Asn Ala Gly Lys Met Tyr Val Gln His Ile Pro Gly Phe
 385 390 395 400
 Tyr Asp Val Ser Leu Arg Ala Val Gly Gln Gly Thr Ala Ile Trp His
 405 410 415
 His Met Ile Leu Ser Thr Ala Ala Cys Ala Ile Ser Asn Arg Ile Ser
 420 425 430
 His Gly Asp Gly Leu Gly Phe Leu Leu Asp Ala Ala Ile Arg Ile Ser
 435 440 445
 Ala Asn Cys Ile Phe Leu Gly Arg Asn Asp Asn Phe Gly Val Gly Asp
 450 455 460
 Pro Cys Trp Leu Glu Asp His Leu Ala Gly Leu Pro Arg Glu Ala Val
 465 470 475 480
 Pro Asp Val Leu Gln Val Thr Gln Leu Val Leu Pro Asn Arg Gly Pro
 485 490 495
 Thr Val Ala Ile Met Arg Gly Phe Phe Gly Ala Leu Ala Tyr Trp Pro
 500 505 510
 Glu Leu Arg Ile Ala Ile Ser Glu Pro Ser Thr Ser Leu Val Arg Tyr
 515 520 525
 Ala Thr Gly His Met Glu Leu Ala Glu Trp Phe Leu Phe Ser Arg Thr
 530 535 540
 His Ser Leu Lys Pro Gln Phe Thr Pro Thr Glu Arg Glu Met Leu Ala
 545 550 555 560
 Ser Phe Phe Thr Leu Tyr Val Thr Leu Gly Gly Gly Met Leu Asn Trp
 565 570 575
 Ile Cys Arg Ala Thr Ala Met Tyr Leu Ala Ala Pro Tyr His Ser Arg
 580 585 590
 Ser Ala Tyr Ile Ala Val Cys Glu Ser Leu Pro Tyr Tyr Tyr Ile Pro
 595 600 605

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Val Asn Ser Asp Leu Leu Cys Asp Leu Glu Val Leu Leu Leu Gly Glu
610 615 620

Val Asp Leu Pro Thr Val Cys Glu Ser Tyr Ala Thr Ile Ala His Glu
625 630 635 640

Leu Thr Gly Tyr Glu Ala Val Arg Thr Ala Ala Thr Asn Phe Met Ile
645 650 655

Glu Phe Ala Asp Cys Tyr Lys Glu Ser Glu Thr Asp Leu Met Val Ser
660 665 670

Ala Tyr Leu Gly Ala Val Leu Leu Leu Gln Arg Val Leu Gly His Ala
675 680 685

Asn Leu Leu Leu Leu Leu Leu Ser Gly Ala Ala Leu Tyr Gly Gly Cys
690 695 700

Ser Ile Tyr Ile Pro Arg Gly Ile Leu Asp Ala Tyr Asn Thr Leu Met
705 710 715 720

Leu Ala Ala Ser Pro Leu Tyr Ala His Gln Thr Leu Thr Ser Phe Trp
725 730 735

Lys Asp Arg Asp Asp Ala Met Gln Thr Leu Gly Ile Arg Pro Thr Thr
740 745 750

Asp Val Leu Pro Lys Glu Gln Asp Arg Ile Val Gln Ala Ser Pro Ile
755 760 765

Glu Met Asn Phe Arg Phe Val Gly Leu Glu Thr Ile Tyr Pro Arg Glu
770 775 780

Gln Pro Ile Pro Ser Val Asp Leu Ala Glu Asn Leu Met Gln Tyr Arg
785 790 795 800

Asn Glu Ile Leu Gly Leu Asp Trp Lys Ser Val Ala Met His Leu Leu
805 810 815

Arg Lys Tyr

<210> 15
<211> 661
<212> PRT
<213> Varicella zoster

<400> 15

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Met Phe Ser Arg Phe Ala Arg Ser Phe Ser Ser Asp Asp Arg Thr Arg
 1 5 10 15
 Lys Ser Tyr Asp Gly Ser Tyr Gln Ser Phe Asn Ala Gly Glu Arg Asp
 20 25 30
 Leu Pro Thr Pro Thr Arg Asp Trp Cys Ser Ile Ser Gln Arg Ile Thr
 35 40 45
 Ser Glu Arg Val Arg Asp Gly Cys Leu Ile Pro Thr Pro Gly Glu Ala
 50 55 60
 Leu Glu Thr Ala Val Lys Ala Leu Ser Glu Lys Thr Asp Ser Leu Thr
 65 70 75 80
 Ser Pro Val Leu Gln Ser Thr Glu Arg His Ser Val Leu Leu Gly Leu
 85 90 95
 His His Asn Asn Val Pro Glu Ser Leu Val Val Ser Cys Met Ser Asn
 100 105 110
 Asp Val His Asp Gly Phe Met Gln Arg Tyr Met Glu Thr Ile Gln Arg
 115 120 125
 Cys Leu Asp Asp Leu Lys Leu Ser Gly Asp Gly Leu Trp Trp Val Tyr
 130 135 140
 Glu Asn Thr Tyr Trp Gln Tyr Leu Lys Tyr Thr Thr Gly Ala Glu Val
 145 150 155 160
 Pro Val Thr Ser Glu Lys Val Asn Lys Lys Ser Lys Ser Thr Val Leu
 165 170 175
 Leu Phe Ser Ser Val Val Ala Asn Lys Pro Ile Ser Arg His Pro Phe
 180 185 190
 Lys Ser Lys Val Ile Asn Ser Asp Tyr Arg Gly Ile Cys Gln Glu Leu
 195 200 205
 Arg Glu Ala Leu Gly Ala Val Gln Lys Tyr Met Tyr Phe Met Arg Pro
 210 215 220
 Asp Asp Pro Thr Asn Pro Ser Pro Asp Thr Arg Ile Arg Val Gln Glu
 225 230 235 240
 Ile Ala Ala Tyr Thr Ala Thr Gly Tyr Gly Trp Met Leu Trp Phe Leu
 245 250 255

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Asp Val Val Asp Ala Arg Val Cys Arg His Leu Lys Leu Gln Phe Arg
 260 265 270
 Arg Ile Arg Gly Pro Arg Ala Ser Val Ile Pro Asp Asp Leu Leu Arg
 275 280 285
 Arg His Leu Lys Thr Gly Pro Ala Val Ser Ala Gly Thr Gly Val Ala
 290 295 300
 Phe Ile Leu Ala Ala Thr Thr Ala Ser Ala Leu Thr Ala Leu Leu Arg
 305 310 315 320
 Ile Ser Val Leu Trp Arg Lys Glu Glu Trp Arg Asp Gly Leu Asn Gly
 325 330 335
 Thr Ala Ala Ala Ile Val Ala Ala Val Glu Leu Ile Thr Leu Leu His
 340 345 350
 His His Phe Gln Tyr Leu Ile Asn Met Met Leu Ile Gly Tyr Ala Cys
 355 360 365
 Trp Gly Asp Gly Gly Leu Asn Asp Pro Tyr Ile Leu Lys Ala Leu Arg
 370 375 380
 Ala Gln Gly Arg Phe Leu Tyr Phe Ala Gly Gln Leu Val Arg Thr Met
 385 390 395 400
 Ser Thr His Ser Trp Val Val Leu Glu Thr Ser Thr His Met Trp Phe
 405 410 415
 Ser Arg Ala Val Ala Gln Ser Ile Leu Ala His Gly Gly Lys Pro Thr
 420 425 430
 Lys Tyr Tyr Ala Gln Val Leu Ala Ala Ser Lys Arg Tyr Thr Pro Leu
 435 440 445
 His Leu Arg Arg Ile Ser Glu Pro Ser Ser Val Ser Asp Gln Pro Tyr
 450 455 460
 Ile Arg Phe Asn Arg Leu Gly Ser Pro Ile Gly Thr Gly Ile Gly Asn
 465 470 475 480
 Leu Glu Cys Val Cys Leu Thr Gly Asn Tyr Leu Ser Asp Asp Val Asn
 485 490 495
 Ala Ser Ser His Val Ile Asn Thr Glu Ala Pro Leu Asn Ser Ile Ala
 500 505 510

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Pro Asp Thr Asn Arg Gln Arg Thr Ser Arg Val Leu Val Arg Pro Asp
515 520 525

Thr Gly Leu Asp Val Thr Val Arg Lys Asn His Cys Leu Asp Ile Gly
530 535 540

His Thr Asp Gly Ser Pro Val Asp Pro Thr Tyr Pro Asp His Tyr Thr
545 550 555 560

Arg Ile Lys Ala Glu Tyr Glu Gly Pro Val Arg Asp Glu Ser Asn Thr
565 570 575

Met Phe Asp Gln Arg Ser Asp Leu Arg His Ile Glu Thr Gln Ala Ser
580 585 590

Leu Asn Asp His Val Tyr Glu Asn Ile Pro Pro Lys Glu Val Gly Phe
595 600 605

Asn Ser Ser Ser Asp Leu Asp Val Asp Ser Leu Asn Gly Tyr Thr Ser
610 615 620

Gly Asp Met His Thr Asp Asp Asp Leu Ser Pro Asp Phe Ile Pro Asn
625 630 635 640

Asp Val Pro Val Arg Cys Lys Thr Thr Val Thr Phe Arg Lys Asn Thr
645 650 655

Pro Lys Ser His His
660

<210> 16
<211> 301
<212> PRT
<213> Varicella zoster

<400> 16

Met Gly Asp Leu Ser Cys Trp Thr Lys Val Pro Gly Phe Thr Leu Thr
1 5 10 15

Gly Glu Leu Gln Tyr Leu Lys Gln Val Asp Asp Ile Leu Arg Tyr Gly
20 25 30

Val Arg Lys Arg Asp Arg Thr Gly Ile Gly Thr Leu Ser Leu Phe Gly
35 40 45

Met Gln Ala Arg Tyr Asn Leu Arg Asn Glu Phe Pro Leu Leu Thr Thr
50 55 60

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Lys Arg Val Phe Trp Arg Ala Val Val Glu Glu Leu Leu Trp Phe Ile
 65 70 75 80
 Arg Gly Ser Thr Asp Ser Lys Glu Leu Ala Ala Lys Asp Ile His Ile
 85 90 95
 Trp Asp Ile Tyr Gly Ser Ser Lys Phe Leu Asn Arg Asn Gly Phe His
 100 105 110
 Lys Arg His Thr Gly Asp Leu Gly Pro Ile Tyr Gly Phe Gln Trp Arg
 115 120 125
 His Phe Gly Ala Glu Tyr Lys Asp Cys Gln Ser Asn Tyr Leu Gln Gln
 130 135 140
 Gly Ile Asp Gln Leu Gln Thr Val Ile Asp Thr Ile Lys Thr Asn Pro
 145 150 155 160
 Glu Ser Arg Arg Met Ile Ile Ser Ser Trp Asn Pro Lys Asp Ile Pro
 165 170 175
 Leu Met Val Leu Pro Pro Cys His Thr Leu Cys Gln Phe Tyr Val Ala
 180 185 190
 Asn Gly Glu Leu Ser Cys Gln Val Tyr Gln Arg Ser Gly Asp Met Gly
 195 200 205
 Leu Gly Val Pro Phe Asn Ile Ala Gly Tyr Ala Leu Leu Thr Tyr Ile
 210 215 220
 Val Ala His Val Thr Gly Leu Lys Thr Gly Asp Leu Ile His Thr Met
 225 230 235 240
 Gly Asp Ala His Ile Tyr Leu Asn His Ile Asp Ala Leu Lys Val Gln
 245 250 255
 Leu Ala Arg Ser Pro Lys Pro Phe Pro Cys Leu Lys Ile Ile Arg Asn
 260 265 270
 Val Thr Asp Ile Asn Asp Phe Lys Trp Asp Asp Phe Gln Leu Asp Gly
 275 280 285
 Tyr Asn Pro His Pro Pro Leu Lys Met Glu Met Ala Leu
 290 295 300

<210> 17

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<211> 455

<212> PRT

<213> Varicella zoster

<400> 17

Met Gly Leu Phe Gly Leu Thr Arg Phe Ile His Glu His Lys Leu Val
1 5 10 15

Lys Pro Ser Ile Ile Ser Thr Pro Pro Gly Val Leu Thr Pro Val Ala
20 25 30

Val Asp Val Trp Asn Val Met Tyr Thr Leu Leu Glu Arg Leu Tyr Pro
35 40 45

Val Gly Lys Arg Glu Asn Leu His Gly Pro Ser Val Thr Ile His Cys
50 55 60

Leu Gly Val Leu Leu Arg Leu Leu Thr Gln Arg Ser Tyr Tyr Pro Ile
65 70 75 80

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Leu Thr Arg Val Leu Leu Ser Ser Asn Thr Ser Cys Ser Ile Lys Tyr
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Asn Lys Thr Ser Glu Thr Tyr Asp Ser Val Phe Arg Asn Ser Ser Thr
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Ser Cys Ile Pro Ser Glu Glu Asn Lys Ser Gln Asp Met Phe Leu Asp
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Gly Cys Pro Arg Gln Thr Asp Lys Thr Ile Cys Leu Arg Asp Gln Asn
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Val Cys Ser Leu Thr Ser Thr Met Pro Ser Arg Gly His Pro Asn His
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Arg Leu Tyr His Lys Leu Cys Ala Ser Leu Ile Arg Trp Met Gly Tyr
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Ala Tyr Val Glu Ala Val Asp Ile Glu Ala Asp Glu Ala Cys Ala Asn
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Leu Phe His Thr Arg Thr Val Ala Leu Val Tyr Thr Thr Asp Thr Asp
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 Asp Ser Trp Arg His Gly Glu Val Phe Lys Ser Leu Thr Val Ala Thr
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 Pro Ser Ser Ser Pro Leu Asp Asn Leu Glu Arg Ala Phe Val Glu His
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 Asn Thr Leu Tyr His Asn Leu Lys Gly Glu Lys Met Ala Arg Gln Tyr
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 Tyr Asp Met Pro Phe Val Gln Glu Gly Ile Arg Val Leu Thr Gln Tyr
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 Ser Ser Leu Thr Pro Leu Thr Arg Ala Leu Phe Ile Ile Cys Met Ile
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Glu His Thr Arg Gly Ile Trp Glu Lys Val Gln Ala Ser Thr Ser Pro
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Asp Ser Gly Pro Gln Met Gly Ala Val Leu Thr Ser Gln Cys Asn Ile
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185

190

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Ser Gly His Leu Lys Phe Ile Ser Ser Ser Asn Val Asp Asp Tyr
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Glu Ile Asn Asp Ala Ile Leu Ser Ile Gln Thr Asn Val His Ala

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Asp	Ile	Ile	Val	Asp	Ala	Arg	Leu	Asp	Leu	Ser	Ser	Thr
2195						2200					2205	Leu
Ala	Arg	Phe	Asp	Thr	Ala	Pro	Ser	Asn	Thr	Thr	Leu	Glu
2210						2215					2220	Trp
Thr	Asp	Arg	Lys	Val	Ile	Thr	Asp	Ala	Tyr	Ile	Gln	Thr
2225						2230					2235	Gly
Thr	Thr	Val	Phe	Thr	Val	Thr	Gly	Ala	Ala	Pro	Thr	His
2240						2245					2250	Val
Asn	Val	Thr	Ala	Phe	Asp	Ile	Ala	Thr	Thr	Ala	Ile	Leu
2255						2260					2265	Phe
Ala	Pro	Leu	Val	Ile	Ala	Met	Glu	Leu	Thr	Ser	Val	Phe
2270						2275					2280	Ser
Asn	Ser	Gly	Leu	Thr	Leu	Gly	Leu	Lys	Leu	Phe	Asp	Ser
2285						2290					2295	Arg
Met	Ala	Thr	Asp	Ser	Gly	Ile	Ser	Ser	Ala	Val	Ser	Pro
2300						2305					2310	Asp
Val	Ser	Trp	Gly	Leu	Arg	Leu	Leu	His	Met	Asp	Pro	His
2315						2320					2325	Pro
Glu	Asn	Ala	Cys	Leu	Ile	Val	Gln	Leu	Glu	Lys	Leu	Ser
2330						2335					2340	Ala
Ile	Ala	Asn	Lys	Pro	Leu	Thr	Asn	Asn	Pro	Pro	Cys	Leu
2345						2350					2355	Leu

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Leu	Asp	Glu	His	Met	Asn	Pro	Ser	Tyr	Val	Leu	Trp	Glu	Arg	Lys
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Asp	Ser	Ile	Pro	Ala	Pro	Asp	Tyr	Val	Val	Phe	Trp	Gly	Pro	Glu
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Ser	Leu	Ile	Asp	Leu	Pro	Tyr	Ile	Asp	Ser	Asp	Glu	Asp	Ser	Phe
2390						2395					2400			
Pro	Ser	Cys	Pro	Asp	Asp	Pro	Phe	Tyr	Ser	Gln	Ile	Ile	Ala	Gly
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Tyr	Ala	Pro	Gln	Gly	Pro	Pro	Asn	Leu	Asp	Thr	Thr	Asp	Phe	Tyr
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Pro	Thr	Glu	Pro	Leu	Phe	Lys	Ser	Pro	Val	Gln	Val	Val	Arg	Ser
2435						2440					2445			
Ser	Lys	Cys	Lys	Lys	Met	Pro	Val	Arg	Pro	Ala	Gln	Pro	Ala	Gln
2450						2455					2460			
Pro	Ala	Gln	Pro	Ala	Gln	Pro	Ala	Gln	Thr	Val	Gln	Pro	Ala	Gln
2465						2470					2475			
Pro	Ile	Glu	Pro	Gly	Thr	Gln	Ile	Val	Val	Gln	Asn	Phe	Lys	Lys
2480						2485					2490			
Pro	Gln	Ser	Val	Lys	Thr	Thr	Leu	Ser	Gln	Lys	Asp	Ile	Pro	Leu
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Tyr	Val	Glu	Thr	Glu	Ser	Glu	Thr	Ala	Val	Leu	Ile	Pro	Lys	Gln
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Leu	Thr	Thr	Ser	Ile	Lys	Thr	Thr	Val	Cys	Lys	Ser	Ile	Thr	Pro
2525						2530					2535			
Pro	Asn	Asn	Gln	Leu	Ser	Asp	Trp	Lys	Asn	Asn	Pro	Gln	Gln	Asn
2540						2545					2550			
Gln	Thr	Leu	Asn	Gln	Ala	Phe	Ser	Lys	Pro	Ile	Leu	Glu	Ile	Thr
2555						2560					2565			
Ser	Ile	Pro	Thr	Asp	Asp	Ser	Ile	Ser	Tyr	Arg	Thr	Trp	Ile	Glu
2570						2575					2580			
Lys	Ser	Asn	Gln	Thr	Gln	Lys	Arg	His	Gln	Asn	Asp	Pro	Arg	Met
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Tyr	Asn	Ser	Lys	Thr	Val	Phe	His	Pro	Val	Asn	Asn	Gln	Leu	Pro
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Ser	Trp	Val	Asp	Thr	Ala	Ala	Asp	Ala	Pro	Gln	Thr	Asp	Leu	Leu
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Thr	Asn	Tyr	Lys	Thr	Arg	Gln	Pro	Ser	Pro	Asn	Phe	Pro	Arg	Asp
	2630					2635					2640			
Val	His	Thr	Trp	Gly	Val	Ser	Ser	Asn	Pro	Phe	Asn	Ser	Pro	Asn
	2645					2650					2655			
Arg	Asp	Leu	Tyr	Gln	Ser	Asp	Phe	Ser	Glu	Pro	Ser	Asp	Gly	Tyr
	2660					2665					2670			
Ser	Ser	Glu	Ser	Glu	Asn	Ser	Ile	Val	Leu	Ser	Leu	Asp	Glu	His
	2675					2680					2685			
Arg	Ser	Cys	Arg	Val	Pro	Arg	His	Val	Arg	Val	Val	Asn	Ala	Asp
	2690					2695					2700			
Val	Val	Thr	Gly	Arg	Arg	Tyr	Val	Arg	Gly	Thr	Ala	Leu	Gly	Ala
	2705					2710					2715			
Leu	Ala	Leu	Leu	Ser	Gln	Ala	Cys	Arg	Arg	Met	Ile	Asp	Asn	Val
	2720					2725					2730			
Arg	Tyr	Thr	Arg	Lys	Leu	Leu	Met	Asp	His	Thr	Glu	Asp	Ile	Phe
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Val	Phe	Ser	Glu	Asn	Thr	Ser	Ser	Asn	Ser	Gly	Trp	Cys	Ser	Asp
			20					25					30	Ala
Phe	Ser	Asp	Ser	Tyr	Ile	Ala	Tyr	Asn	Pro	Ala	Leu	Leu	Leu	Lys
		35					40					45		Asn

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Asp	Leu	Leu	Phe	Ser	Glu	Leu	Leu	Phe	Ala	Ser	His	Leu	Ile	Asn	Val
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Gly	Val	Asp	Asn	Glu	Met	Thr	Ser	Ser	Thr	Thr	Glu	Phe	Ile	Glu	Glu
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Ile	Gly	Asp	Val	Leu	Ala	Leu	Asp	Arg	Ala	Cys	Leu	Val	Cys	Arg	Thr
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Leu	Asp	Leu	Tyr	Lys	Arg	Lys	Phe	Gly	Leu	Thr	Pro	Glu	Trp	Val	Ala
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Asp	Tyr	Ala	Met	Leu	Cys	Met	Lys	Ser	Leu	Ala	Ser	Pro	Pro	Cys	Ala
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Val	Val	Thr	Phe	Ser	Ala	Ala	Phe	Glu	Phe	Val	Tyr	Leu	Met	Asp	Arg
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Tyr	Tyr	Leu	Cys	Arg	Tyr	Asn	Val	Thr	Leu	Val	Gly	Ser	Phe	Ala	Arg
				165					170					175	
Arg	Thr	Leu	Ser	Leu	Leu	Asp	Ile	Gln	Arg	His	Phe	Phe	Leu	His	Val
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Cys	Phe	Arg	Thr	Asp	Gly	Gly	Leu	Pro	Gly	Ile	Arg	Pro	Pro	Pro	Gly
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Lys	Glu	Met	Ala	Asn	Lys	Val	Arg	Tyr	Ser	Asn	Tyr	Ser	Phe	Phe	Val
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Gln	Ala	Val	Val	Arg	Ala	Ala	Leu	Leu	Ser	Ile	Ser	Thr	Ser	Arg	Leu
225					230					235					240
Asp	Glu	Thr	Glu	Thr	Arg	Lys	Ser	Phe	Tyr	Phe	Asn	Gln	Asp	Gly	Leu
				245					250					255	
Thr	Gly	Gly	Pro	Gln	Pro	Leu	Ala	Ala	Ala	Leu	Ala	Asn	Trp	Lys	Asp
			260					265					270		
Cys	Ala	Arg	Met	Val	Asp	Cys	Ser	Ser	Ser	Glu	His	Arg	Thr	Ser	Gly
		275					280					285			
Met	Ile	Thr	Cys	Ala	Glu	Arg	Ala	Leu	Lys	Glu	Asp	Ile	Glu	Phe	Glu
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Asp Ile Leu Ile Asp Lys Leu Lys Lys Ser Ser Tyr Val Glu Ala Ala
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 Trp Gly Tyr Ala Asp Leu Ala Leu Leu Leu Leu Ser Gly Val Ala Thr
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 Trp Asn Val Asp Glu Arg Thr Asn Cys Ala Ile Glu Thr Arg Val Gly
 340 345 350
 Cys Val Lys Ser Tyr Trp Gln Ala Asn Arg Ile Glu Asn Ser Arg Asp
 355 360 365
 Val Pro Lys Gln Phe Ser Lys Phe Thr Ser Glu Asp Ala Cys Pro Glu
 370 375 380
 Val Ala Phe Gly Pro Ile Leu Leu Thr Thr Leu Lys Asn Ala Lys Cys
 385 390 395 400
 Arg Gly Arg Thr Asn Thr Glu Cys Met Leu Cys Cys Leu Leu Thr Ile
 405 410 415
 Gly His Tyr Trp Ile Ala Leu Arg Gln Phe Lys Arg Asp Ile Leu Ala
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 Tyr Ser Ala Asn Asn Thr Ser Leu Phe Asp Cys Ile Glu Pro Val Ile
 435 440 445
 Asn Ala Trp Ser Leu Asp Asn Pro Ile Lys Leu Lys Phe Pro Phe Asn
 450 455 460
 Asp Glu Gly Arg Phe Ile Thr Ile Val Lys Ala Ala Gly Ser Glu Ala
 465 470 475 480
 Val Tyr Lys His Leu Phe Cys Asp Leu Leu Cys Ala Leu Ser Glu Leu
 485 490 495
 Gln Thr Asn Pro Lys Ile Leu Phe Ala His Pro Thr Thr Ala Asp Lys
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 Glu Gly Arg Val Cys Ala Gly Leu Trp Thr Leu Ala Tyr Ala Phe Lys
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Phe Leu Ala Ala Arg Ser Thr Asp Ser Asp Leu Ala Leu Leu Pro Leu
35 40 45

Met Arg Asn Leu Thr Val Glu Lys Thr Phe Thr Ser Ser Leu Ala Val
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Val Ser Gly Ala Arg Thr Thr Gly Leu Ala Gly Ala Gly Ile Thr Leu
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Lys Leu Thr Thr Ser His Phe Tyr Pro Ser Val Phe Val Phe His Gly
85 90 95

Gly Lys His Val Leu Pro Ser Ser Ala Ala Pro Asn Leu Thr Arg Ala
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Cys Asn Ala Ala Arg Glu Arg Phe Gly Phe Ser Arg Cys Gln Gly Pro
115 120 125

Pro Val Asp Gly Ala Val Glu Thr Thr Gly Ala Glu Ile Cys Thr Arg
130 135 140

Leu Gly Leu Glu Pro Glu Asn Thr Ile Leu Tyr Leu Val Val Thr Ala
145 150 155 160

Leu Phe Lys Glu Ala Val Phe Met Cys Asn Val Phe Leu His Tyr Gly
165 170 175

Gly Leu Asp Ile Val His Ile Asn His Gly Asp Val Ile Arg Ile Pro
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Leu Phe Pro Val Gln Leu Phe Met Pro Asp Val Asn Arg Leu Val Pro
 195 200 205
 Asp Pro Phe Asn Thr His His Arg Ser Ile Gly Glu Gly Phe Val Tyr
 210 215 220
 Pro Thr Pro Phe Tyr Asn Thr Gly Leu Cys His Leu Ile His Asp Cys
 225 230 235 240
 Val Ile Ala Pro Met Ala Val Ala Leu Arg Val Arg Asn Val Thr Ala
 245 250 255
 Val Ala Arg Gly Ala Ala His Leu Ala Phe Asp Glu Asn His Glu Gly
 260 265 270
 Ala Val Leu Pro Pro Asp Ile Thr Tyr Thr Tyr Phe Gln Ser Ser Ser
 275 280 285
 Ser Gly Thr Thr Thr Ala Arg Gly Ala Arg Arg Asn Asp Val Asn Ser
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 Thr Ser Lys Pro Ser Pro Ser Gly Gly Phe Glu Arg Arg Leu Ala Ser
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 Ile Met Ala Ala Asp Thr Ala Leu His Ala Glu Val Ile Phe Asn Thr
 325 330 335
 Gly Ile Tyr Glu Glu Thr Pro Thr Asp Ile Lys Glu Trp Pro Met Phe
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 Ile Gly Met Glu Gly Thr Leu Pro Arg Leu Asn Ala Leu Gly Ser Tyr
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 Thr Ala Arg Val Ala Gly Val Ile Gly Ala Met Val Phe Ser Pro Asn
 370 375 380
 Ser Ala Leu Tyr Leu Thr Glu Val Glu Asp Ser Gly Met Thr Glu Ala
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 Lys Asp Gly Gly Pro Gly Pro Ser Phe Asn Arg Phe Tyr Gln Phe Ala
 405 410 415
 Gly Pro His Leu Ala Ala Asn Pro Gln Thr Asp Arg Asp Gly His Val
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Leu Ser Ser Gln Ser Thr Gly Ser Ser Asn Thr Glu Phe Ser Val Asp
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Tyr Leu Ala Leu Ile Cys Gly Phe Gly Ala Pro Leu Leu Ala Arg Leu
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Leu Phe Tyr Leu Glu Arg Cys Asp Ala Gly Ala Phe Thr Gly Gly His
465 470 475 480

Gly Asp Ala Leu Lys Tyr Val Thr Gly Thr Phe Asp Ser Glu Ile Pro
485 490 495

Cys Ser Leu Cys Glu Lys His Thr Arg Pro Val Cys Ala His Thr Thr
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Val His Arg Leu Arg Gln Arg Met Pro Arg Phe Gly Gln Ala Thr Arg
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Gln Pro Ile Gly Val Phe Gly Thr Met Asn Ser Gln Tyr Ser Asp Cys
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Asp Pro Leu Gly Asn Tyr Ala Pro Tyr Leu Ile Leu Arg Lys Pro Gly
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Asp Gln Thr Glu Ala Ala Lys Ala Thr Met Gln Asp Thr Tyr Arg Ala
565 570 575

Thr Leu Glu Arg Leu Phe Ile Asp Leu Glu Gln Glu Arg Leu Leu Asp
580 585 590

Arg Gly Ala Pro Cys Ser Ser Glu Gly Leu Ser Ser Val Ile Val Asp
595 600 605

His Pro Thr Phe Arg Arg Ile Leu Asp Thr Leu Arg Ala Arg Ile Glu
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Gln Thr Thr Thr Gln Phe Met Lys Val Leu Val Glu Thr Arg Asp Tyr
625 630 635 640

Lys Ile Arg Glu Gly Leu Ser Glu Ala Thr His Ser Met Ala Leu Thr
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Phe Asp Pro Tyr Ser Gly Ala Phe Cys Pro Ile Thr Asn Phe Leu Val
660 665 670

Lys Arg Thr His Leu Ala Val Val Gln Asp Leu Ala Leu Ser Gln Cys
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Gly	Phe	Ile	Ser	Thr	Arg	Ser	Ile	Thr	Val	Thr	Leu	Ser	Glu	Gly	Pro		
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Val	Ser	Ala	Pro	Asn	Pro	Thr	Leu	Gly	Gln	Asp	Ala	Pro	Ala	Gly	Arg		
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Thr	Phe	Asp	Gly	Asp	Leu	Ala	Arg	Val	Ser	Val	Glu	Val	Ile	Arg	Asp		
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Ile	Arg	Val	Lys	Asn	Arg	Val	Val	Phe	Ser	Gly	Asn	Cys	Thr	Asn	Leu		
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Ser	Glu	Ala	Ala	Arg	Ala	Arg	Leu	Val	Gly	Leu	Ala	Ser	Ala	Tyr	Gln		
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Arg	Gln	Glu	Lys	Arg	Val	Asp	Met	Leu	His	Gly	Ala	Leu	Gly	Phe	Leu		
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Leu	Lys	Gln	Phe	His	Gly	Leu	Leu	Phe	Pro	Arg	Gly	Met	Pro	Pro	Asn		
			820					825					830				
Ser	Lys	Ser	Pro	Asn	Pro	Gln	Trp	Phe	Trp	Thr	Leu	Leu	Gln	Arg	Asn		
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Gln	Met	Pro	Ala	Asp	Lys	Leu	Thr	His	Glu	Glu	Ile	Thr	Thr	Ile	Ala		
	850					855					860						
Ala	Val	Lys	Arg	Phe	Thr	Glu	Glu	Tyr	Ala	Ala	Ile	Asn	Phe	Ile	Asn		
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Leu	Pro	Pro	Thr	Cys	Ile	Gly	Glu	Leu	Ala	Gln	Phe	Tyr	Met	Ala	Asn		
				885					890					895			
Leu	Ile	Leu	Lys	Tyr	Cys	Asp	His	Ser	Gln	Tyr	Leu	Ile	Asn	Thr	Leu		
			900					905					910				
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Gln	Ala	Lys	Ala	Leu	Leu	Glu	Lys	Thr	Glu	Asn	Leu	Pro	Glu	Leu	Trp
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Thr	Thr	Ala	Phe	Thr	Ser	Thr	His	Leu	Val	Arg	Ala	Ala	Met	Asn	Gln
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Arg	Pro	Met	Val	Val	Leu	Gly	Ile	Ser	Ile	Ser	Lys	Tyr	His	Gly	Ala
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Ala	Gly	Asn	Asn	Arg	Val	Phe	Gln	Ala	Gly	Asn	Trp	Ser	Gly	Leu	Asn
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Gly	Gly	Lys	Asn	Val	Cys	Pro	Leu	Phe	Thr	Phe	Asp	Arg	Thr	Arg	
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Arg	Phe	Ile	Ile	Ala	Cys	Pro	Arg	Gly	Gly	Phe	Ile	Cys	Pro	Val	
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Thr	Gly	Pro	Ser	Ser	Gly	Asn	Arg	Glu	Thr	Thr	Leu	Ser	Asp	Gln	
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Val	Arg	Gly	Ile	Ile	Val	Ser	Gly	Gly	Ala	Met	Val	Gln	Leu	Ala	
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Ile	Tyr	Ala	Thr	Val	Val	Arg	Ala	Val	Gly	Ala	Arg	Ala	Gln	His	
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Met	Ala	Phe	Asp	Asp	Trp	Leu	Ser	Leu	Thr	Asp	Asp	Glu	Phe	Leu	
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Glu	Thr	Pro	Trp	Thr	Val	Glu	Gly	Ala	Leu	Glu	Ala	Val	Lys	Ile	
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Leu	Asp	Glu	Lys	Thr	Thr	Ala	Gly	Asp	Gly	Glu	Thr	Pro	Thr	Asn	
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Leu	Ala	Phe	Asn	Phe	Asp	Ser	Cys	Glu	Pro	Ser	His	Asp	Thr	Thr	
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Ser	Asn	Val	Leu	Asn	Ile	Ser	Gly	Ser	Asn	Ile	Ser	Gly	Ser	Thr	
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Val	Pro	Gly	Leu	Lys	Arg	Pro	Pro	Glu	Asp	Asp	Glu	Leu	Phe	Asp	

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Arg Tyr Leu Leu Lys Leu Phe Leu Arg Gly Phe Asn Thr Gln Leu Lys
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Phe Gly Asn Thr Pro Thr Val Cys Ala Leu His Trp Ala Leu Cys Tyr
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Val Lys Gly Glu Gly Glu Arg Leu Phe Glu Leu Leu Gln His Phe Lys
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Thr Arg Phe Val Tyr Gly Glu Thr Lys Asp Ser Asn Cys Ile Lys Asp
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Tyr Phe Val Ser Ala Phe Asn Leu Lys Thr Cys Gln Tyr His His Glu
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Leu Ser Leu Thr Thr Tyr Gly Gly Tyr Val Ser Ser Glu Ile Gln Phe
 130 135 140

Leu His Asp Ile Glu Asn Phe Leu Lys Gln Leu Asn Tyr Cys Tyr Ile
 145 150 155 160

Ile Thr Ser Ser Arg Glu Ala Leu Asn Thr Leu Glu Thr Val Thr Arg
 165 170 175

Phe Met Thr Asp Thr Ile Gly Ser Gly Leu Ile Pro Pro Val Glu Leu
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Phe Asp Pro Ala His Pro Cys Ala Ile Cys Phe Glu Glu Leu Cys Ile
 195 200 205
 Thr Ala Asn Gln Gly Glu Thr Leu His Arg Arg Leu Leu Gly Cys Ile
 210 215 220
 Cys Asp His Val Thr Lys Gln Val Arg Val Asn Val Asp Val Asp Asp
 225 230 235 240
 Ile Ile Arg Cys Leu Pro Tyr Ile Pro Asp Val Pro Asp Ile Lys Arg
 245 250 255
 Gln Ser Ala Val Glu Ala Leu Arg Thr Leu Gln Thr Lys Thr Val Val
 260 265 270
 Asn Pro Met Gly Ala Lys Asn Asp Thr Phe Asp Gln Thr Tyr Glu Ile
 275 280 285
 Ala Ser Thr Met Leu Asp Ser Tyr Asn Val Phe Lys Pro Ala Pro Arg
 290 295 300
 Cys Met Tyr Ala Ile Ser Glu Leu Lys Phe Trp Leu Thr Ser Asn Ser
 305 310 315 320
 Thr Glu Gly Pro Gln Arg Thr Leu Asp Val Phe Val Asp Asn Leu Asp
 325 330 335
 Val Leu Asn Glu His Glu Lys His Ala Glu Leu Thr Ala Val Thr Val
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 Glu Leu Ala Leu Phe Gly Lys Thr Pro Ile His Phe Asp Arg Ala Phe
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 Ser Glu Glu Leu Gly Ser Leu Asp Ala Ile Asp Ser Ile Leu Val Gly
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 Asn Arg Ser Ser Ser Pro Asp Ser Gln Ile Glu Ala Leu Ile Lys Ala
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 Pro Ser His Asp Asn Glu Ala Ala Leu Arg Gln Leu Leu Glu Arg Val
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 Lys Arg Val Tyr Leu Glu His Leu Ser Lys Arg Ser Leu Thr Ser Leu
 485 490 495
 Gly Arg Cys Ile Arg Glu Gln Arg Gln Glu Leu Glu Lys Thr Leu Arg
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 Val Asn Val Tyr Gly Glu Ala Leu Leu Gln Thr Phe Val Ser Met Gln
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 Asn Gly Phe Gly Ala Arg Asn Val Phe Leu Ala Lys Val Ser Gln Ala
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 Gly Cys Ile Ile Asp Asn Arg Ile Gln Glu Ala Ala Phe Asp Ala His
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 Arg Phe Ile Arg Asn Thr Leu Val Arg His Thr Val Asp Ala Ala Met
 565 570 575
 Leu Pro Ala Leu Thr His Lys Phe Phe Glu Leu Val Asn Gly Pro Leu
 580 585 590
 Phe Asn His Asp Glu His Arg Phe Ala Gln Pro Pro Asn Thr Ala Leu
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 Phe Phe Thr Val Glu Asn Val Gly Leu Phe Pro His Leu Lys Glu Glu
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 Leu Ala Lys Phe Met Gly Gly Val Val Gly Ser Asn Trp Leu Leu Ser
 625 630 635 640
 Pro Phe Arg Gly Phe Tyr Cys Phe Ser Gly Val Glu Gly Val Thr Phe
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 Ala Gln Arg Leu Ala Trp Lys Tyr Ile Arg Glu Leu Val Phe Ala Thr
 660 665 670
 Thr Leu Phe Thr Ser Val Phe His Cys Gly Glu Val Arg Leu Cys Arg
 675 680 685

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Val Asp Arg Leu Gly Lys Asp Pro Arg Gly Cys Thr Ser Gln Pro Lys
690 695 700

Gly Ile Gly Ser Ser His Gly Pro Leu Asp Gly Ile Tyr Leu Thr Tyr
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Glu Glu Thr Cys Pro Leu Val Ala Ile Ile Gln Ser Gly Glu Thr Gly
725 730 735

Ile Asp Gln Asn Thr Val Val Ile Tyr Asp Ser Asp Val Phe Ser Leu
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Leu Tyr Thr Leu Met Gln Arg Leu Ala Pro Asp Ser Thr Asp Pro Ala
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Phe Ser
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Asp Ala Glu Thr Lys Pro Thr Phe Tyr Val Cys Pro Pro Pro Thr Gly
50 55 60

Ser Thr Ile Val Arg Leu Glu Pro Thr Arg Thr Cys Pro Asp Tyr His
65 70 75 80

Leu Gly Lys Asn Phe Thr Glu Gly Ile Ala Val Val Tyr Lys Glu Asn
85 90 95

Ile Ala Ala Tyr Lys Phe Lys Ala Thr Val Tyr Tyr Lys Asp Val Ile
100 105 110

Val Ser Thr Ala Trp Ala Gly Ser Ser Tyr Thr Gln Ile Thr Asn Arg
115 120 125

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Tyr Ala Asp Arg Val Pro Ile Pro Val Ser Glu Ile Thr Asp Thr Ile
 130 135 140
 Asp Lys Phe Gly Lys Cys Ser Ser Lys Ala Thr Tyr Val Arg Asn Asn
 145 150 155 160
 His Lys Val Glu Ala Phe Asn Glu Asp Lys Asn Pro Gln Asp Met Pro
 165 170 175
 Leu Ile Ala Ser Lys Tyr Asn Ser Val Gly Ser Lys Ala Trp His Thr
 180 185 190
 Thr Asn Asp Thr Tyr Met Val Ala Gly Thr Pro Gly Thr Tyr Arg Thr
 195 200 205
 Gly Thr Ser Val Asn Cys Ile Ile Glu Glu Val Glu Ala Arg Ser Ile
 210 215 220
 Phe Pro Tyr Asp Ser Phe Gly Leu Ser Thr Gly Asp Ile Ile Tyr Met
 225 230 235 240
 Ser Pro Phe Phe Gly Leu Arg Asp Gly Ala Tyr Arg Glu His Ser Asn
 245 250 255
 Tyr Ala Met Asp Arg Phe His Gln Phe Glu Gly Tyr Arg Gln Arg Asp
 260 265 270
 Leu Asp Thr Arg Ala Leu Leu Glu Pro Ala Ala Arg Asn Phe Leu Val
 275 280 285
 Thr Pro His Leu Thr Val Gly Trp Asn Trp Lys Pro Lys Arg Thr Glu
 290 295 300
 Val Cys Ser Leu Val Lys Trp Arg Glu Val Glu Asp Val Val Arg Asp
 305 310 315 320
 Glu Tyr Ala His Asn Phe Arg Phe Thr Met Lys Thr Leu Ser Thr Thr
 325 330 335
 Phe Ile Ser Glu Thr Asn Glu Phe Asn Leu Asn Gln Ile His Leu Ser
 340 345 350
 Gln Cys Val Lys Glu Glu Ala Arg Ala Ile Ile Asn Arg Ile Tyr Thr
 355 360 365
 Thr Arg Tyr Asn Ser Ser His Val Arg Thr Gly Asp Ile Gln Thr Tyr
 370 375 380

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Leu Ala Arg Gly Gly Phe Val Val Val Phe Gln Pro Leu Leu Ser Asn
 385 390 395 400
 Ser Leu Ala Arg Leu Tyr Leu Gln Glu Leu Val Arg Glu Asn Thr Asn
 405 410 415
 His Ser Pro Gln Lys His Pro Thr Arg Asn Thr Arg Ser Arg Arg Ser
 420 425 430
 Val Pro Val Glu Leu Arg Ala Asn Arg Thr Ile Thr Thr Thr Ser Ser
 435 440 445
 Val Glu Phe Ala Met Leu Gln Phe Thr Tyr Asp His Ile Gln Glu His
 450 455 460
 Val Asn Glu Met Leu Ala Arg Ile Ser Ser Ser Trp Cys Gln Leu Gln
 465 470 475 480
 Asn Arg Glu Arg Ala Leu Trp Ser Gly Leu Phe Pro Ile Asn Pro Ser
 485 490 495
 Ala Leu Ala Ser Thr Ile Leu Asp Gln Arg Val Lys Ala Arg Ile Leu
 500 505 510
 Gly Asp Val Ile Ser Val Ser Asn Cys Pro Glu Leu Gly Ser Asp Thr
 515 520 525
 Arg Ile Ile Leu Gln Asn Ser Met Arg Val Ser Gly Ser Thr Thr Arg
 530 535 540
 Cys Tyr Ser Arg Pro Leu Ile Ser Ile Val Ser Leu Asn Gly Ser Gly
 545 550 555 560
 Thr Val Glu Gly Gln Leu Gly Thr Asp Asn Glu Leu Ile Met Ser Arg
 565 570 575
 Asp Leu Leu Glu Pro Cys Val Ala Asn His Lys Arg Tyr Phe Leu Phe
 580 585 590
 Gly His His Tyr Val Tyr Tyr Glu Asp Tyr Arg Tyr Val Arg Glu Ile
 595 600 605
 Ala Val His Asp Val Gly Met Ile Ser Thr Tyr Val Asp Leu Asn Leu
 610 615 620
 Thr Leu Leu Lys Asp Arg Glu Phe Met Pro Leu Gln Val Tyr Thr Arg

625 630 635 640
 Asp Glu Leu Arg Asp Thr Gly Leu Leu Asp Tyr Ser Glu Ile Gln Arg
 645 650 655
 Arg Asn Gln Met His Ser Leu Arg Phe Tyr Asp Ile Asp Lys Val Val
 660 665 670
 Gln Tyr Asp Ser Gly Thr Ala Ile Met Gln Gly Met Ala Gln Phe Phe
 675 680 685
 Gln Gly Leu Gly Thr Ala Gly Gln Ala Val Gly His Val Val Leu Gly
 690 695 700
 Ala Thr Gly Ala Leu Leu Ser Thr Val His Gly Phe Thr Thr Phe Leu
 705 710 715 720
 Ser Asn Pro Phe Gly Ala Leu Ala Val Gly Leu Leu Val Leu Ala Gly
 725 730 735
 Leu Val Ala Ala Phe Phe Ala Tyr Arg Tyr Val Leu Lys Leu Lys Thr
 740 745 750
 Ser Pro Met Lys Ala Leu Tyr Pro Leu Thr Thr Lys Gly Leu Lys Gln
 755 760 765
 Leu Pro Glu Gly Met Asp Pro Phe Ala Glu Lys Pro Asn Ala Thr Asp
 770 775 780
 Thr Pro Ile Glu Glu Ile Gly Asp Ser Gln Asn Thr Glu Pro Ser Val
 785 790 795 800
 Asn Ser Gly Phe Asp Pro Asp Lys Phe Arg Glu Ala Gln Glu Met Ile
 805 810 815
 Lys Tyr Met Thr Leu Val Ser Ala Ala Glu Arg Gln Glu Ser Lys Ala
 820 825 830
 Arg Lys Lys Asn Lys Thr Ser Ala Leu Leu Thr Ser Arg Leu Thr Gly
 835 840 845
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 850 855 860
 Val Thr Gly Val
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 <213> Varicella zoster

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His His Pro Ser Lys Gln Cys Ala Ser Ser Leu Asn Glu Thr Val Lys
 20 25 30

Asp Ser Pro Pro Ala Ile Tyr Glu Asp Arg Leu Glu His Thr Pro Val
 35 40 45

Gln Leu Pro Arg Asp Gly Thr Pro Arg Asp Val Cys Ser Val Gly Gln
 50 55 60

Leu Thr Cys Arg Ala Cys Ala Thr Lys Pro Phe Arg Leu Asn Arg Asp
 65 70 75 80

Ser Gln Tyr Asp Tyr Leu Asn Thr Cys Pro Gly Gly Arg His Ile Ser
 85 90 95

Leu Ala Leu Glu Ile Ile Thr Gly Arg Trp Val Cys Ile Pro Arg Val
 100 105 110

Phe Pro Asp Thr Pro Glu Glu Lys Trp Met Ala Pro Tyr Ile Ile Pro
 115 120 125

Asp Arg Glu Gln Pro Ser Ser Gly Asp Glu Asp Ser Asp Thr Asp
 130 135 140

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Met Ser Thr Asp Lys Thr Asp Val Lys Met Gly Val Leu Arg Ile Tyr
 1 5 10 15

Leu Asp Gly Ala Tyr Gly Ile Gly Lys Thr Thr Ala Ala Glu Glu Phe
 20 25 30

Leu His His Phe Ala Ile Thr Pro Asn Arg Ile Leu Leu Ile Gly Glu
 35 40 45

Pro Leu Ser Tyr Trp Arg Asn Leu Ala Gly Glu Asp Ala Ile Cys Gly
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50

55

60

Ile Tyr Gly Thr Gln Thr Arg Arg Leu Asn Gly Asp Val Ser Pro Glu
 65 70 75 80
 Asp Ala Gln Arg Leu Thr Ala His Phe Gln Ser Leu Phe Cys Ser Pro
 85 90 95
 His Ala Ile Met His Ala Lys Ile Ser Ala Leu Met Asp Thr Ser Thr
 100 105 110
 Ser Asp Leu Val Gln Val Asn Lys Glu Pro Tyr Lys Ile Met Leu Ser
 115 120 125
 Asp Arg His Pro Ile Ala Ser Thr Ile Cys Phe Pro Leu Ser Arg Tyr
 130 135 140
 Leu Val Gly Asp Met Ser Pro Ala Ala Leu Pro Gly Leu Leu Phe Thr
 145 150 155 160
 Leu Pro Ala Glu Pro Pro Gly Thr Asn Leu Val Val Cys Thr Val Ser
 165 170 175
 Leu Pro Ser His Leu Ser Arg Val Ser Lys Arg Ala Arg Pro Gly Glu
 180 185 190
 Thr Val Asn Leu Pro Phe Val Met Val Leu Arg Asn Val Tyr Ile Met
 195 200 205
 Leu Ile Asn Thr Ile Ile Phe Leu Lys Thr Asn Asn Trp His Ala Gly
 210 215 220
 Trp Asn Thr Leu Ser Phe Cys Asn Asp Val Phe Lys Gln Lys Leu Gln
 225 230 235 240
 Lys Ser Glu Cys Ile Lys Leu Arg Glu Val Pro Gly Ile Glu Asp Thr
 245 250 255
 Leu Phe Ala Val Leu Lys Leu Pro Glu Leu Cys Gly Glu Phe Gly Asn
 260 265 270
 Ile Leu Pro Leu Trp Ala Trp Gly Met Glu Thr Leu Ser Asn Cys Ser
 275 280 285
 Arg Ser Met Ser Pro Phe Val Leu Ser Leu Glu Gln Thr Pro Gln His
 290 295 300

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Ala Ala Gln Glu Leu Lys Thr Leu Leu Pro Gln Met Thr Pro Ala Asn
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Met Ser Ser Gly Ala Trp Asn Ile Leu Lys Glu Leu Val Asn Ala Val
325 330 335

Gln Asp Asn Thr Ser
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<213> Varicella zoster

<400> 26

Met Phe Ala Leu Val Leu Ala Val Val Ile Leu Pro Leu Trp Thr Thr
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Ala Asn Lys Ser Tyr Val Thr Pro Thr Pro Ala Thr Arg Ser Ile Gly
20 25 30

His Met Ser Ala Leu Leu Arg Glu Tyr Ser Asp Arg Asn Met Ser Leu
35 40 45

Lys Leu Glu Ala Phe Tyr Pro Thr Gly Phe Asp Glu Glu Leu Ile Lys
50 55 60

Ser Leu His Trp Gly Asn Asp Arg Lys His Val Phe Leu Val Ile Val
65 70 75 80

Lys Val Asn Pro Thr Thr His Glu Gly Asp Val Gly Leu Val Ile Phe
85 90 95

Pro Lys Tyr Leu Leu Ser Pro Tyr His Phe Lys Ala Glu His Arg Ala
100 105 110

Pro Phe Pro Ala Gly Arg Phe Gly Phe Leu Ser His Pro Val Thr Pro
115 120 125

Asp Val Ser Phe Phe Asp Ser Ser Phe Ala Pro Tyr Leu Thr Thr Gln
130 135 140

His Leu Val Ala Phe Thr Thr Phe Pro Pro Asn Pro Leu Val Trp His
145 150 155 160

Leu Glu Arg Ala Glu Thr Ala Ala Thr Ala Glu Arg Pro Phe Gly Val
165 170 175

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Ser Leu Leu Pro Ala Arg Pro Thr Val Pro Lys Asn Thr Ile Leu Glu
180 185 190

His Lys Ala His Phe Ala Thr Trp Asp Ala Leu Ala Arg His Thr Phe
195 200 205

Phe Ser Ala Glu Ala Ile Ile Thr Asn Ser Thr Leu Arg Ile His Val
210 215 220

Pro Leu Phe Gly Ser Val Trp Pro Ile Arg Tyr Trp Ala Thr Gly Ser
225 230 235 240

Val Leu Leu Thr Ser Asp Ser Gly Arg Val Glu Val Asn Ile Gly Val
245 250 255

Gly Phe Met Ser Ser Leu Ile Ser Leu Ser Ser Gly Pro Pro Ile Glu
260 265 270

Leu Ile Val Val Pro His Thr Val Lys Leu Asn Ala Val Thr Ser Asp
275 280 285

Thr Thr Trp Phe Gln Leu Asn Pro Pro Gly Pro Asp Pro Gly Pro Ser
290 295 300

Tyr Arg Val Tyr Leu Leu Gly Arg Gly Leu Asp Met Asn Phe Ser Lys
305 310 315 320

His Ala Thr Val Asp Ile Cys Ala Tyr Pro Glu Glu Ser Leu Asp Tyr
325 330 335

Arg Tyr His Leu Ser Met Ala His Thr Glu Ala Leu Arg Met Thr Thr
340 345 350

Lys Ala Asp Gln His Asp Ile Asn Glu Glu Ser Tyr Tyr His Ile Ala
355 360 365

Ala Arg Ile Ala Thr Ser Ile Phe Ala Leu Ser Glu Met Gly Arg Thr
370 375 380

Thr Glu Tyr Phe Leu Leu Asp Glu Ile Val Asp Val Gln Tyr Gln Leu
385 390 395 400

Lys Phe Leu Asn Tyr Ile Leu Met Arg Ile Gly Ala Gly Ala His Pro
405 410 415

Asn Thr Ile Ser Gly Thr Ser Asp Leu Ile Phe Ala Asp Pro Ser Gln
420 425 430

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Leu His Asp Glu Leu Ser Leu Leu Phe Gly Gln Val Lys Pro Ala Asn
 435 440 445
 Val Asp Tyr Phe Ile Ser Tyr Asp Glu Ala Arg Asp Gln Leu Lys Thr
 450 455 460
 Ala Tyr Ala Leu Ser Arg Gly Gln Asp His Val Asn Ala Leu Ser Leu
 465 470 475 480
 Ala Arg Arg Val Ile Met Ser Ile Tyr Lys Gly Leu Leu Val Lys Gln
 485 490 495
 Asn Leu Asn Ala Thr Glu Arg Gln Ala Leu Phe Phe Ala Ser Met Ile
 500 505 510
 Leu Leu Asn Phe Arg Glu Gly Leu Glu Asn Ser Ser Arg Val Leu Asp
 515 520 525
 Gly Arg Thr Thr Leu Leu Leu Met Thr Ser Met Cys Thr Ala Ala His
 530 535 540
 Ala Thr Gln Ala Ala Leu Asn Ile Gln Glu Gly Leu Ala Tyr Leu Asn
 545 550 555 560
 Pro Ser Lys His Met Phe Thr Ile Pro Asn Val Tyr Ser Pro Cys Met
 565 570 575
 Gly Ser Leu Arg Thr Asp Leu Thr Glu Glu Ile His Val Met Asn Leu
 580 585 590
 Leu Ser Ala Ile Pro Thr Arg Pro Gly Leu Asn Glu Val Leu His Thr
 595 600 605
 Gln Leu Asp Glu Ser Glu Ile Phe Asp Ala Ala Phe Lys Thr Met Met
 610 615 620
 Ile Phe Thr Thr Trp Thr Ala Lys Asp Leu His Ile Leu His Thr His
 625 630 635 640
 Val Pro Glu Val Phe Thr Cys Gln Asp Ala Ala Ala Arg Asn Gly Glu
 645 650 655
 Tyr Val Leu Ile Leu Pro Ala Val Gln Gly His Ser Tyr Val Ile Thr
 660 665 670
 Arg Asn Lys Pro Gln Arg Gly Leu Val Tyr Ser Leu Ala Asp Val Asp
 675 680 685

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Val Tyr Asn Pro Ile Ser Val Val Tyr Leu Ser Arg Asp Thr Cys Val
690 695 700

Ser Glu His Gly Val Ile Glu Thr Val Ala Leu Pro His Pro Asp Asn
705 710 715 720

Leu Lys Glu Cys Leu Tyr Cys Gly Ser Val Phe Leu Arg Tyr Leu Thr
725 730 735

Thr Gly Ala Ile Met Asp Ile Ile Ile Ile Asp Ser Lys Asp Thr Glu
740 745 750

Arg Gln Leu Ala Ala Met Gly Asn Ser Thr Ile Pro Pro Phe Asn Pro
755 760 765

Asp Met His Gly Asp Asp Ser Lys Ala Val Leu Leu Phe Pro Asn Gly
770 775 780

Thr Val Val Thr Leu Leu Gly Phe Glu Arg Arg Gln Ala Ile Arg Met
785 790 795 800

Ser Gly Gln Tyr Leu Gly Ala Ser Leu Gly Gly Ala Phe Leu Ala Val
805 810 815

Val Gly Phe Gly Ile Ile Gly Trp Met Leu Cys Gly Asn Ser Arg Leu
820 825 830

Arg Glu Tyr Asn Lys Ile Pro Leu Thr
835 840

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<213> Varicella zoster

<400> 27

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Ser Val Met Val Asn Gln His Pro Glu Glu Asp Ala Lys Val Cys Lys
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Ser Ser Asp Asn Ser Pro Leu Tyr Asn Thr Met Val Met Leu Ser Tyr
35 40 45

Gly Gly Asp Thr Asp Leu Leu Leu Ser Ser Ala Cys Thr Arg Thr Ser
50 55 60

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Thr Val Asn Arg Ser Ala Phe Thr Gln His Ser Val Phe Tyr Ile Ile
65 70 75 80

Ser Thr Val Leu Ile Gln Pro Ile Cys Cys Ile Phe Phe Phe Phe Tyr
85 90 95

Tyr Lys Ala Thr Arg Cys Met Leu Leu Phe Thr Ala Gly Leu Leu Leu
100 105 110

Thr Ile Leu His His Phe Arg Leu Ile Ile Met Leu Leu Cys Val Tyr
115 120 125

Arg Asn Ile Arg Ser Asp Leu Leu Pro Leu Ser Thr Ser Gln Gln Leu
130 135 140

Leu Leu Gly Ile Ile Val Val Thr Arg Thr Met Leu Phe Cys Ile Thr
145 150 155 160

Ala Tyr Tyr Thr Leu Phe Ile Asp Thr Arg Val Phe Phe Leu Ile Thr
165 170 175

Gly His Leu Gln Ser Glu Val Ile Phe Pro Asp Ser Val Ser Lys Ile
180 185 190

Leu Pro Val Ser Trp Gly Pro Ser Pro Ala Val Leu Leu Val Met Ala
195 200 205

Ala Val Ile Tyr Ala Met Asp Cys Leu Val Asp Thr Val Ser Phe Ile
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Gly Pro Arg Val Trp Val Arg Val Met Leu Lys Thr Ser Ile Ser Phe
225 230 235 240

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20 25 30

Gly Asn Val Leu Ser Thr Ile Glu Val Cys Ala His Arg Cys Ile Phe
35 40 45

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Asp Phe Phe Lys Gln Ile Arg Ser Asp Asp Asn Ser Leu Tyr Ser Ala
50 55 60

Gln Phe Asp Ile Leu Leu Gly Thr Tyr Cys Asn Thr Leu Asn Phe Val
65 70 75 80

Arg Phe Leu Glu Leu Gly Leu Ser Val Ala Cys Ile Cys Thr Lys Phe
85 90 95

Pro Glu Leu Ala Tyr Val Arg Asp Gly Val Ile Gln Phe Glu Val Gln
100 105 110

Gln Pro Met Ile Ala Arg Asp Gly Pro His Pro Val Asp Gln Pro Val
115 120 125

His Asn Tyr Met Val Lys Arg Ile His Lys Arg Ser Leu Ser Ala Ala
130 135 140

Phe Ala Ile Ala Ser Glu Ala Leu Ser Leu Leu Ser Asn Thr Tyr Val
145 150 155 160

Asp Gly Thr Glu Ile Asp Ser Ser Leu Arg Ile Arg Ala Ile Gln Gln
165 170 175

Met Ala Arg Asn Leu Arg Thr Val Leu Asp Ser Phe Glu Arg Gly Thr
180 185 190

Ala Asp Gln Leu Leu Gly Val Leu Leu Glu Lys Ala Pro Pro Leu Ser
195 200 205

Leu Leu Ser Pro Ile Asn Lys Phe Gln Pro Glu Gly His Leu Asn Arg
210 215 220

Val Ala Arg Ala Ala Leu Leu Ser Asp Leu Lys Arg Arg Val Cys Ala
225 230 235 240

Asp Met Phe Phe Met Thr Arg His Ala Arg Glu Pro Arg Leu Ile Ser
245 250 255

Ala Tyr Leu Ser Asp Met Val Ser Cys Thr Gln Pro Ser Val Met Val
260 265 270

Ser Arg Ile Thr His Thr Asn Thr Arg Gly Arg Gln Val Asp Gly Val
275 280 285

Leu Val Thr Thr Ala Thr Leu Lys Arg Gln Leu Leu Gln Gly Ile Leu

290

295

Gln 305	Ile	Asp	Asp	Thr	Ala 310	Ala	Asp	Val	Pro	Val 315	Thr	Tyr	Gly	Glu	Met 320
Val	Leu	Gln	Gly	Thr 325	Asn	Leu	Val	Thr	Ala 330	Leu	Val	Met	Gly	Lys 335	Ala
Val	Arg	Gly	Met 340	Asp	Asp	Val	Ala	Arg 345	His	Leu	Leu	Asp	Ile 350	Thr	Asp
Pro	Asn	Thr 355	Leu	Asn	Ile	Pro	Ser 360	Ile	Pro	Pro	Gln	Ser 365	Asn	Ser	Asp
Ser	Thr 370	Thr	Ala	Gly	Leu	Pro 375	Val	Asn	Ala	Arg	Val 380	Pro	Ala	Asp	Leu
Val 385	Ile	Val	Gly	Asp	Lys 390	Leu	Val	Phe	Leu	Glu 395	Ala	Leu	Glu	Arg	Arg 400
Val	Tyr	Gln	Ala	Thr 405	Arg	Val	Ala	Tyr	Pro 410	Leu	Ile	Gly	Asn	Ile 415	Asp
Ile	Thr	Phe	Ile 420	Met	Pro	Met	Gly	Val 425	Phe	Gln	Ala	Asn	Ser 430	Met	Asp
Arg	Tyr	Thr 435	Arg	His	Ala	Gly	Asp 440	Phe	Ser	Thr	Val	Ser 445	Glu	Gln	Asp
Pro	Arg 450	Gln	Phe	Pro	Pro	Gln 455	Gly	Ile	Phe	Phe	Tyr 460	Asn	Lys	Asp	Gly
Ile 465	Leu	Thr	Gln	Leu	Thr 470	Leu	Arg	Asp	Ala	Met 475	Gly	Thr	Ile	Cys	His 480
Ser	Ser	Leu	Leu	Asp 485	Val	Glu	Ala	Thr	Leu 490	Val	Ala	Leu	Arg	Gln 495	Gln
His	Leu	Asp	Arg 500	Gln	Cys	Tyr	Phe	Gly 505	Val	Tyr	Val	Ala	Glu 510	Gly	Thr
Glu	Asp	Thr 515	Leu	Asp	Val	Gln	Met 520	Gly	Arg	Phe	Met	Glu 525	Thr	Trp	Ala
Asp	Met 530	Met	Pro	His	His	Pro 535	His	Trp	Val	Asn	Glu 540	His	Leu	Thr	Ile

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Leu Gln Phe Ile Ala Pro Ser Asn Pro Arg Leu Arg Phe Glu Leu Asn
545 550 555 560

Pro Ala Phe Asp Phe Phe Val Ala Pro Gly Asp Val Asp Leu Pro Gly
565 570 575

Pro Gln Arg Pro Pro Glu Ala Met Pro Thr Val Asn Ala Thr Leu Arg
580 585 590

Ile Ile Asn Gly Asn Ile Pro Val Pro Leu Cys Pro Ile Ser Phe Arg
595 600 605

Asp Cys Arg Gly Thr Gln Leu Gly Leu Gly Arg His Thr Met Thr Pro
610 615 620

Ala Thr Ile Lys Ala Val Lys Asp Thr Phe Glu Asp Arg Ala Tyr Pro
625 630 635 640

Thr Ile Phe Tyr Met Leu Glu Ala Val Ile His Gly Asn Glu Arg Asn
645 650 655

Phe Cys Ala Leu Leu Arg Leu Leu Thr Gln Cys Ile Arg Gly Tyr Trp
660 665 670

Glu Gln Ser His Arg Val Ala Phe Val Asn Asn Phe His Met Leu Met
675 680 685

Tyr Ile Thr Thr Tyr Leu Gly Asn Gly Glu Leu Pro Glu Val Cys Ile
690 695 700

Asn Ile Tyr Arg Asp Leu Leu Gln His Val Arg Ala Leu Arg Gln Thr
705 710 715 720

Ile Thr Asp Phe Thr Ile Gln Gly Glu Gly His Asn Gly Glu Thr Ser
725 730 735

Glu Ala Leu Asn Asn Ile Leu Thr Asp Asp Thr Phe Ile Ala Pro Ile
740 745 750

Leu Trp Asp Cys Asp Ala Leu Ile Tyr Arg Asp Glu Ala Ala Arg Asp
755 760 765

Arg Leu Pro Ala Ile Arg Val Ser Gly Arg Asn Gly Tyr Gln Ala Leu
770 775 780

His Phe Val Asp Met Ala Gly His Asn Phe Gln Arg Arg Asp Asn Val
785 790 795 800

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Leu Ile His Gly Arg Pro Val Arg Gly Asp Thr Gly Gln Gly Ile Pro
 805 810 815
 Ile Thr Pro His His Asp Arg Glu Trp Gly Ile Leu Ser Lys Ile Tyr
 820 825 830
 Tyr Tyr Ile Val Ile Pro Ala Phe Ser Arg Gly Ser Cys Cys Thr Met
 835 840 845
 Gly Val Arg Tyr Asp Arg Leu Tyr Pro Ala Leu Gln Ala Val Ile Val
 850 855 860
 Pro Glu Ile Pro Ala Asp Glu Glu Ala Pro Thr Thr Pro Glu Asp Pro
 865 870 875 880
 Arg His Pro Leu His Ala His Gln Leu Val Pro Asn Ser Leu Asn Val
 885 890 895
 Tyr Phe His Asn Ala His Leu Thr Val Asp Gly Asp Ala Leu Leu Thr
 900 905 910
 Leu Gln Glu Leu Met Gly Asp Met Ala Glu Arg Thr Thr Ala Ile Leu
 915 920 925
 Val Ser Ser Ala Pro Asp Ala Gly Ala Ala Thr Ala Thr Thr Arg Asn
 930 935 940
 Met Arg Ile Tyr Asp Gly Ala Leu Tyr His Gly Leu Ile Met Met Ala
 945 950 955 960
 Tyr Gln Ala Tyr Asp Glu Thr Ile Ala Thr Gly Thr Phe Phe Tyr Pro
 965 970 975
 Val Pro Val Asn Pro Leu Phe Ala Cys Pro Glu His Leu Ala Ser Leu
 980 985 990
 Arg Gly Met Thr Asn Ala Arg Arg Val Leu Ala Lys Met Val Pro Pro
 995 1000 1005
 Ile Pro Pro Phe Leu Gly Ala Asn His His Ala Thr Ile Arg Gln
 1010 1015 1020
 Pro Val Ala Tyr His Val Thr His Ser Lys Ser Asp Phe Asn Thr
 1025 1030 1035
 Leu Thr Tyr Ser Leu Leu Gly Gly Tyr Phe Lys Phe Thr Pro Ile
 1040 1045 1050

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Ser	Leu	Thr	His	Gln	Leu	Arg	Thr	Gly	Phe	His	Pro	Gly	Ile	Ala
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Phe	Thr	Val	Val	Arg	Gln	Asp	Arg	Phe	Ala	Thr	Glu	Gln	Leu	Leu
	1070					1075					1080			
Tyr	Ala	Glu	Arg	Ala	Ser	Glu	Ser	Tyr	Phe	Val	Gly	Gln	Ile	Gln
	1085					1090					1095			
Val	His	His	His	Asp	Ala	Ile	Gly	Gly	Val	Asn	Phe	Thr	Leu	Thr
	1100					1105					1110			
Gln	Pro	Arg	Ala	His	Val	Asp	Leu	Gly	Val	Gly	Tyr	Thr	Ala	Val
	1115					1120					1125			
Cys	Ala	Thr	Ala	Ala	Leu	Arg	Cys	Pro	Leu	Thr	Asp	Met	Gly	Asn
	1130					1135					1140			
Thr	Ala	Gln	Asn	Leu	Phe	Phe	Ser	Arg	Gly	Gly	Val	Pro	Met	Leu
	1145					1150					1155			
His	Asp	Asn	Val	Thr	Glu	Ser	Leu	Arg	Arg	Ile	Thr	Ala	Ser	Gly
	1160					1165					1170			
Gly	Arg	Leu	Asn	Pro	Thr	Glu	Pro	Leu	Pro	Ile	Phe	Gly	Gly	Leu
	1175					1180					1185			
Arg	Pro	Ala	Thr	Ser	Ala	Gly	Ile	Ala	Arg	Gly	Gln	Ala	Ser	Val
	1190					1195					1200			
Cys	Glu	Phe	Val	Ala	Met	Pro	Val	Ser	Thr	Asp	Leu	Gln	Tyr	Phe
	1205					1210					1215			
Arg	Thr	Ala	Cys	Asn	Pro	Arg	Gly	Arg	Ala	Ser	Gly	Met	Leu	Tyr
	1220					1225					1230			
Met	Gly	Asp	Arg	Asp	Ala	Asp	Ile	Glu	Ala	Ile	Met	Phe	Asp	His
	1235					1240					1245			
Thr	Gln	Ser	Asp	Val	Ala	Tyr	Thr	Asp	Arg	Ala	Thr	Leu	Asn	Pro
	1250					1255					1260			
Trp	Ala	Ser	Gln	Lys	His	Ser	Tyr	Gly	Asp	Arg	Leu	Tyr	Asn	Gly
	1265					1270					1275			
Thr	Tyr	Asn	Leu	Thr	Gly	Ala	Ser	Pro	Ile	Tyr	Ser	Pro	Cys	Phe

1280

1285

1290

Lys Phe Phe Thr Pro Ala Glu Val Asn Thr Asn Cys Asn Thr Leu
 1295 1300 1305

Asp Arg Leu Leu Met Glu Ala Lys Ala Val Ala Ser Gln Ser Ser
 1310 1315 1320

Thr Asp Thr Glu Tyr Gln Phe Lys Arg Pro Pro Gly Ser Thr Glu
 1325 1330 1335

Met Thr Gln Asp Pro Cys Gly Leu Phe Gln Glu Ala Tyr Pro Pro
 1340 1345 1350

Leu Cys Ser Ser Asp Ala Ala Met Leu Arg Thr Ala His Ala Gly
 1355 1360 1365

Glu Thr Gly Ala Asp Glu Val His Leu Ala Gln Tyr Leu Ile Arg
 1370 1375 1380

Asp Ala Ser Pro Leu Arg Gly Cys Leu Pro Leu Pro Arg
 1385 1390 1395

<210> 29

<211> 316

<212> PRT

<213> Varicella zoster

<400> 29

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Pro Ala Glu Thr Ser Ala Leu Gln Lys Cys Glu Gly Lys Ile Ile Thr
 20 25 30

Phe Ser Thr Leu Arg His Arg Ala Ser Leu Val Asp Ile Ala Leu Ser
 35 40 45

Ser Tyr Tyr Ile Asn Gly Ala Pro Pro Asp Thr Leu Ser Leu Leu Glu
 50 55 60

Ala Tyr Arg Met Arg Phe Ala Ala Val Ile Thr Arg Val Ile Pro Gly
 65 70 75 80

Lys Leu Leu Ala His Ala Ile Gly Val Gly Thr Pro Thr Pro Gly Leu
 85 90 95

Phe Ile Gln Asn Thr Ser Pro Val Asp Leu Cys Asn Gly Asp Tyr Ile
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100

105

110

Cys Leu Leu Pro Pro Val Phe Gly Ser Ala Asp Ser Ile Arg Leu Asp
 115 120 125
 Ser Val Gly Leu Glu Ile Val Phe Pro Leu Thr Ile Pro Gln Thr Leu
 130 135 140
 Met Arg Glu Ile Ile Ala Lys Val Val Ala Arg Ala Val Glu Arg Thr
 145 150 155 160
 Ala Ala Gly Ala Gln Ile Leu Pro His Glu Val Leu Arg Gly Ala Asp
 165 170 175
 Val Ile Cys Tyr Asn Gly Arg Arg Tyr Glu Leu Glu Thr Asn Leu Gln
 180 185 190
 His Arg Asp Gly Ser Asp Ala Ala Ile Arg Thr Leu Val Leu Asn Leu
 195 200 205
 Met Phe Ser Ile Asn Glu Gly Cys Leu Leu Leu Leu Ala Leu Ile Pro
 210 215 220
 Thr Leu Leu Val Gln Gly Ala His Asp Gly Tyr Val Asn Leu Leu Ile
 225 230 235 240
 Gln Thr Ala Asn Cys Val Arg Glu Thr Gly Gln Leu Ile Asn Ile Pro
 245 250 255
 Pro Met Pro Arg Ile Gln Asp Gly His Arg Arg Phe Pro Ile Tyr Glu
 260 265 270
 Thr Ile Ser Ser Trp Ile Ser Thr Ser Ser Arg Leu Gly Asp Thr Leu
 275 280 285
 Gly Thr Arg Ala Ile Leu Arg Val Cys Val Phe Asp Gly Pro Ser Thr
 290 295 300
 Val His Pro Gly Asp Arg Thr Ala Val Ile Gln Val
 305 310 315

<210> 30

<211> 676

<212> PRT

<213> Varicella zoster

<400> 30

Met Glu Ala His Leu Ala Asn Glu Thr Lys His Ala Leu Trp His Asn
 Page 203

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Asp	His	Thr	Lys	Gly	Leu	Leu	His	Val	Val	Ile	Pro	Asn	Ala	Gly	Leu
			20					25					30		
Ile	Ala	Ala	Gly	Ile	Asp	Pro	Ala	Leu	Leu	Ile	Leu	Lys	Lys	Pro	Gly
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Cys	Glu	Pro	Trp	Cys	Gln	Val	Phe	Ala	Ala	Tyr	Ile	Pro	Asp	Asn	Ala
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Leu	Thr	Asn	Leu	Leu	Ile	Pro	Lys	Thr	Glu	Pro	Phe	Val	Ser	His	Val
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Phe	Ser	Ala	Thr	His	Asn	Ser	Gly	Gly	Leu	Ile	Leu	Ser	Leu	Pro	Val
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Tyr	Leu	Ser	Pro	Gly	Leu	Phe	Phe	Asp	Ala	Phe	Asn	Val	Val	Ala	Ile
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Arg	Ile	Asn	Thr	Gly	Asn	Arg	Lys	His	Arg	Asp	Ile	Cys	Ile	Met	Tyr
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Ala	Glu	Leu	Ile	Pro	Asn	Gly	Thr	Arg	Tyr	Phe	Ala	Asp	Gly	Gln	Arg
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Val	Leu	Leu	Leu	Cys	Lys	Gln	Leu	Ile	Ala	Tyr	Ile	Arg	Cys	Thr	Pro
				165					170					175	
Arg	Leu	Ala	Ser	Ser	Ile	Lys	Ile	Tyr	Ala	Glu	His	Met	Val	Ala	Ala
			180					185					190		
Met	Gly	Glu	Ser	His	Thr	Ser	Asn	Gly	Asp	Asn	Ile	Gly	Pro	Val	Ser
		195					200					205			
Ser	Ile	Ile	Asp	Leu	Asp	Arg	Gln	Leu	Thr	Ser	Gly	Gly	Ile	Asp	Asp
	210					215					220				
Ser	Pro	Ala	Glu	Thr	Arg	Ile	Gln	Glu	Asn	Asn	Arg	Asp	Val	Leu	Glu
225					230					235					240
Leu	Ile	Lys	Arg	Ala	Val	Asn	Ile	Val	Asn	Ser	Arg	His	Pro	Val	Arg
				245					250					255	

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Pro Ser Ser Ser Arg Val Ala Ser Gly Leu Leu Gln Ser Ala Lys Gly
 260 265 270
 His Gly Ala Gln Thr Ser Asn Thr Asp Pro Ile Asn Asn Gly Ser Phe
 275 280 285
 Asp Gly Val Leu Glu Pro Pro Gly Gln Gly Arg Phe Thr Gly Lys Lys
 290 295 300
 Asn Asn Ser Ser Ala Ser Ile Pro Pro Leu Gln Asp Val Leu Leu Phe
 305 310 315 320
 Thr Pro Ala Ser Thr Glu Pro Gln Ser Leu Met Glu Trp Phe Asp Ile
 325 330 335
 Cys Tyr Ala Gln Leu Val Ser Gly Asp Thr Pro Ala Asp Phe Trp Lys
 340 345 350
 Arg Arg Pro Leu Ser Ile Val Pro Arg His Tyr Ala Glu Ser Pro Ser
 355 360 365
 Pro Leu Ile Val Val Ser Tyr Asn Gly Ser Ser Ala Trp Gly Gly Arg
 370 375 380
 Ile Thr Gly Ser Pro Ile Leu Tyr His Ser Ala Gln Ala Ile Ile Asp
 385 390 395 400
 Ala Ala Cys Ile Asn Ala Arg Val Asp Asn Pro Gln Ser Leu His Val
 405 410 415
 Thr Ala Arg Gln Glu Leu Val Ala Arg Leu Pro Phe Leu Ala Asn Val
 420 425 430
 Leu Asn Asn Gln Thr Pro Leu Pro Ala Phe Lys Pro Gly Ala Glu Met
 435 440 445
 Phe Leu Asn Gln Val Phe Lys Gln Ala Cys Val Thr Ser Leu Thr Gln
 450 455 460
 Gly Leu Ile Thr Glu Leu Gln Thr Asn Pro Thr Leu Gln Gln Leu Met
 465 470 475 480
 Glu Tyr Asp Ile Ala Asp Ser Ser Gln Thr Val Ile Asp Glu Ile Val
 485 490 495
 Ala Arg Thr Pro Asp Leu Ile Gln Thr Ile Val Ser Val Leu Thr Glu
 500 505 510

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Met Ser Met Asp Ala Phe Tyr Asn Ser Ser Leu Met Tyr Ala Val Leu
515 520 525

Ala Tyr Leu Ser Ser Val Tyr Thr Arg Pro Gln Gly Gly Gly Tyr Ile
530 535 540

Pro Tyr Leu His Ala Ser Phe Pro Cys Trp Leu Gly Asn Arg Ser Ile
545 550 555 560

Tyr Leu Phe Asp Tyr Tyr Asn Ser Gly Gly Glu Ile Leu Lys Leu Ser
565 570 575

Lys Val Pro Val Pro Val Ala Leu Glu Lys Val Gly Ile Gly Asn Ser
580 585 590

Thr Gln Leu Arg Gly Lys Phe Ile Arg Ser Ala Asp Ile Val Asp Ile
595 600 605

Gly Ile Cys Ser Lys Tyr Leu Pro Gly Gln Cys Tyr Ala Tyr Ile Cys
610 615 620

Leu Gly Phe Asn Gln Gln Leu Gln Ser Ile Leu Val Leu Pro Gly Gly
625 630 635 640

Phe Ala Ala Cys Phe Cys Ile Thr Asp Thr Leu Gln Ala Ala Leu Pro
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Ala Ser Leu Ile Gly Pro Ile Leu Asp Arg Phe Cys Phe Ser Ile Pro
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Asn Pro His Lys
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<400> 31

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Arg Lys Leu Thr Pro Glu Ala Val Gln Arg Leu Cys Asp Ala Leu Thr
20 25 30

Leu Asp Met Gly Leu Trp Lys Ser Ile Leu Thr Asp Pro Arg Val Lys
35 40 45

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Ile Met Arg Ser Thr Ala Phe Ile Thr Leu Arg Ile Ala Pro Phe Ile
50 55 60

Pro Leu Gln Thr Asp Thr Thr Asn Ile Ala Val Val Val Ala Thr Ile
65 70 75 80

Tyr Ile Thr Arg Pro Arg Gln Met Asn Leu Pro Pro Lys Thr Phe His
85 90 95

Val Ile Val Asn Phe Asn Tyr Glu Val Ser Tyr Ala Met Thr Ala Thr
100 105 110

Leu Arg Ile Tyr Pro Val Glu Asn Ile Asp His Val Phe Gly Ala Thr
115 120 125

Phe Lys Asn Pro Ile Ala Tyr Pro Leu Pro Thr Ser Ile Pro Asp Pro
130 135 140

Arg Ala Asp Pro Thr Pro Ala Asp Leu Thr Pro Thr Pro Asn Leu Ser
145 150 155 160

Asn Tyr Leu Gln Pro Pro Arg Leu Pro Lys Asn Pro Tyr Ala Cys Lys
165 170 175

Val Ile Ser Pro Gly Val Trp Trp Ser Asp Glu Arg Arg Arg Leu Tyr
180 185 190

Val Leu Ala Met Glu Pro Asn Leu Ile Gly Leu Cys Pro Ala Gly Trp
195 200 205

His Ala Arg Ile Leu Gly Ser Val Leu Asn Arg Leu Leu Ser His Ala
210 215 220

Asp Gly Cys Asp Glu Cys Asn His Arg Val His Val Gly Ala Leu Tyr
225 230 235 240

Ala Leu Pro His Val Thr Asn His Ala Glu Gly Cys Val Cys Trp Ala
245 250 255

Pro Cys Met Trp Arg Lys Ala Gly Gln Arg Glu Leu Lys Val Glu Val
260 265 270

Asp Ile Gly Ala Thr Gln Val Leu Phe Val Asp Val Thr Thr Cys Ile
275 280 285

Arg Ile Thr Ser Thr Lys Asn Pro Arg Ile Thr Ala Asn Leu Gly Asp
290 295 300

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Val Ile Ala Gly Thr Asn Ala Ser Gly Leu Ser Val Pro Val Asn Ser
305 310 315 320

Ser Gly Trp Gln Leu Tyr Met Phe Gly Glu Thr Leu Ser Arg Ala Ile
325 330 335

Ile Asn Gly Cys Gly Leu Leu Gln Arg Ile Cys Phe Pro Glu Thr Gln
340 345 350

Arg Leu Ser Gly Glu Pro Glu Pro Thr Thr Thr
355 360

<210> 32
<211> 199
<212> PRT
<213> Varicella zoster

<400> 32

Met Ser Gly His Thr Pro Thr Tyr Ala Ser His Arg Arg Asn Arg Val
1 5 10 15

Lys Leu Val Glu Ala His Asn Arg Ala Gly Leu Phe Lys Glu Arg Thr
20 25 30

Leu Asp Leu Ile Arg Gly Gly Ala Ser Val Gln Asp Pro Ala Phe Val
35 40 45

Tyr Ala Phe Thr Ala Ala Lys Glu Ala Cys Ala Asp Leu Asn Asn Gln
50 55 60

Leu Arg Ser Ala Ala Arg Ile Ala Ser Val Glu Gln Lys Ile Arg Asp
65 70 75 80

Ile Gln Ser Lys Val Glu Glu Gln Thr Ser Ile Gln Gln Ile Leu Asn
85 90 95

Thr Asn Arg Arg Tyr Ile Ala Pro Asp Phe Ile Arg Gly Leu Asp Lys
100 105 110

Thr Glu Asp Asp Asn Thr Asp Asn Ile Asp Arg Leu Glu Asp Ala Val
115 120 125

Gly Pro Asn Ile Glu His Glu Asn His Thr Trp Phe Gly Glu Asp Asp
130 135 140

Glu Ala Leu Leu Thr Gln Trp Met Leu Thr Thr His Pro Pro Thr Ser
145 150 155 160

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Lys Tyr Leu Gln Leu Gln Asp Leu Cys Val Pro Thr Thr Ile Pro Thr
165 170 175

Asp Met Asn Gln Met Gln Pro Gln Pro Ile Ser Lys Asn Glu Asn Pro
180 185 190

Pro Thr Pro His Thr Asp Val
195

<210> 33
<211> 551
<212> PRT
<213> Varicella zoster
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Met Ala Arg Ser Gly Leu Asp Arg Ile Asp Ile Ser Pro Gln Pro Ala
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Lys Lys Ile Ala Arg Val Gly Gly Leu Gln His Pro Phe Val Lys Thr
20 25 30

Asp Ile Asn Thr Ile Asn Val Glu His His Phe Ile Asp Thr Leu Gln
35 40 45

Lys Thr Ser Pro Asn Met Asp Cys Arg Gly Met Thr Ala Gly Ile Phe
50 55 60

Ile Arg Leu Ser His Met Tyr Lys Ile Leu Thr Thr Leu Glu Ser Pro
65 70 75 80

Asn Asp Val Thr Tyr Thr Thr Pro Gly Ser Thr Asn Ala Leu Phe Phe
85 90 95

Lys Thr Ser Thr Gln Pro Gln Glu Pro Arg Pro Glu Glu Leu Ala Ser
100 105 110

Lys Leu Thr Gln Asp Asp Ile Lys Arg Ile Leu Leu Thr Ile Glu Ser
115 120 125

Glu Thr Arg Gly Gln Gly Asp Asn Ala Ile Trp Thr Leu Leu Arg Arg
130 135 140

Asn Leu Ile Thr Ala Ser Thr Leu Lys Trp Ser Val Ser Gly Pro Val
145 150 155 160

Ile Pro Pro Gln Trp Phe Tyr His His Asn Thr Thr Asp Thr Tyr Gly
165 170 175

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Asp Ala Ala Ala Met Ala Phe Gly Lys Thr Asn Glu Pro Ala Ala Arg
 180 185 190
 Ala Ile Val Glu Ala Leu Phe Ile Asp Pro Ala Asp Ile Arg Thr Pro
 195 200 205
 Asp His Leu Thr Pro Glu Ala Thr Thr Lys Phe Phe Asn Phe Asp Met
 210 215 220
 Leu Asn Thr Lys Ser Pro Ser Leu Leu Val Gly Thr Pro Arg Ile Gly
 225 230 235 240
 Thr Tyr Glu Cys Gly Leu Leu Ile Asp Val Arg Thr Gly Leu Ile Gly
 245 250 255
 Ala Ser Leu Asp Val Leu Val Cys Asp Arg Asp Pro Leu Thr Gly Thr
 260 265 270
 Leu Asn Pro His Pro Ala Glu Thr Asp Ile Ser Phe Phe Glu Ile Lys
 275 280 285
 Cys Arg Ala Lys Tyr Leu Phe Asp Pro Asp Asp Lys Asn Asn Pro Leu
 290 295 300
 Gly Arg Thr Tyr Thr Thr Leu Ile Asn Arg Pro Thr Met Ala Asn Leu
 305 310 315 320
 Arg Asp Phe Leu Tyr Thr Ile Lys Asn Pro Cys Val Ser Phe Phe Gly
 325 330 335
 Pro Ser Ala Asn Pro Ser Thr Arg Glu Ala Leu Ile Thr Asp His Val
 340 345 350
 Glu Trp Lys Arg Leu Gly Phe Lys Gly Gly Arg Ala Leu Thr Glu Leu
 355 360 365
 Asp Ala His His Leu Gly Leu Asn Arg Thr Ile Ser Ser Arg Val Trp
 370 375 380
 Val Phe Asn Asp Pro Asp Ile Gln Lys Gly Thr Ile Thr Thr Ile Ala
 385 390 395 400
 Trp Ala Thr Gly Asp Thr Ala Leu Gln Ile Pro Val Phe Ala Asn Pro
 405 410 415
 Arg His Ala Asn Phe Lys Gln Ile Ala Val Gln Thr Tyr Val Leu Ser

420

425

430

Gly Tyr Phe Pro Ala Leu Lys Leu Arg Pro Phe Leu Val Thr Phe Ile
 435 440 445

Gly Arg Val Arg Arg Pro His Glu Val Gly Val Pro Leu Arg Val Asp
 450 455 460

Thr Gln Ala Ala Ala Ile Tyr Glu Tyr Asn Trp Pro Thr Ile Pro Pro
 465 470 475 480

His Cys Ala Val Pro Val Ile Ala Val Leu Thr Pro Ile Glu Val Asp
 485 490 495

Val Pro Arg Val Thr Gln Ile Leu Lys Asp Thr Gly Asn Asn Ala Ile
 500 505 510

Thr Ser Ala Leu Arg Ser Leu Arg Trp Asp Asn Leu His Pro Ala Val
 515 520 525

Glu Glu Glu Ser Val Asp Cys Ala Asn Gly Thr Thr Ser Leu Leu Arg
 530 535 540

Ala Thr Glu Lys Pro Leu Leu
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<210> 34
 <211> 835
 <212> PRT
 <213> Varicella zoster

<400> 34

Met Ser Pro Asn Thr Gly Glu Ser Asn Ala Ala Val Tyr Ala Ser Ser
 1 5 10 15

Thr Gln Leu Ala Arg Ala Leu Tyr Gly Gly Asp Leu Val Ser Trp Ile
 20 25 30

Lys His Thr His Pro Gly Ile Ser Leu Glu Leu Gln Leu Asp Val Pro
 35 40 45

Val Lys Leu Ile Lys Pro Gly Met Ser Gln Thr Arg Pro Val Thr Val
 50 55 60

Val Arg Ala Pro Met Gly Ser Gly Lys Thr Thr Ala Leu Leu Glu Trp
 65 70 75 80

Leu Gln His Ala Leu Lys Ala Asp Ile Ser Val Leu Val Val Ser Cys
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Arg Arg Ser Phe Thr Gln Thr Leu Ile Gln Arg Phe Asn Asp Ala Gly
 100 105 110
 Leu Ser Gly Phe Val Thr Tyr Leu Thr Ser Glu Thr Tyr Ile Met Gly
 115 120 125
 Phe Lys Arg Leu Ile Val Gln Leu Glu Ser Leu His Arg Val Ser Ser
 130 135 140
 Glu Ala Ile Asp Ser Tyr Asp Val Leu Ile Leu Asp Glu Val Met Ser
 145 150 155 160
 Val Ile Gly Gln Leu Tyr Ser Pro Thr Met Arg Arg Leu Ser Ala Val
 165 170 175
 Asp Ser Leu Leu Tyr Arg Leu Leu Asn Arg Cys Ser Gln Ile Ile Ala
 180 185 190
 Met Asp Ala Thr Val Asn Ser Gln Phe Ile Asp Leu Ile Ser Gly Leu
 195 200 205
 Arg Gly Asp Glu Asn Ile His Thr Ile Val Cys Thr Tyr Ala Gly Val
 210 215 220
 Gly Phe Ser Gly Arg Thr Cys Thr Ile Leu Arg Asp Met Gly Ile Asp
 225 230 235 240
 Thr Leu Val Arg Val Ile Lys Arg Ser Pro Glu His Glu Asp Val Arg
 245 250 255
 Thr Ile His Gln Leu Arg Gly Thr Phe Phe Asp Glu Leu Ala Leu Arg
 260 265 270
 Leu Gln Cys Gly His Asn Ile Cys Ile Phe Ser Ser Thr Leu Ser Phe
 275 280 285
 Ser Glu Leu Val Ala Gln Phe Cys Ala Ile Phe Thr Asp Ser Ile Leu
 290 295 300
 Ile Leu Asn Ser Thr Arg Pro Leu Cys Asn Val Asn Glu Trp Lys His
 305 310 315 320
 Phe Arg Val Leu Val Tyr Thr Thr Val Val Thr Val Gly Leu Ser Phe
 325 330 335

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Asp Met Ala His Phe His Ser Met Phe Ala Tyr Ile Lys Pro Met Ser
340 345 350

Tyr Gly Pro Asp Met Val Ser Val Tyr Gln Ser Leu Gly Arg Val Arg
355 360 365

Leu Leu Leu Leu Asn Glu Val Leu Met Tyr Val Asp Gly Ser Arg Thr
370 375 380

Arg Cys Gly Pro Leu Phe Ser Pro Met Leu Leu Asn Phe Thr Ile Ala
385 390 395 400

Asn Lys Phe Gln Trp Phe Pro Thr His Thr Gln Ile Thr Asn Lys Leu
405 410 415

Cys Cys Ala Phe Arg Gln Arg Cys Ala Asn Ala Phe Thr Arg Ser Asn
420 425 430

Thr His Leu Phe Ser Arg Phe Lys Tyr Lys His Leu Phe Glu Arg Cys
435 440 445

Ser Leu Trp Ser Leu Ala Asp Ser Ile Asn Ile Leu Gln Thr Leu Leu
450 455 460

Ala Ser Asn Gln Ile Leu Val Val Leu Asp Gly Met Gly Pro Ile Thr
465 470 475 480

Asp Val Ser Pro Val Gln Phe Cys Ala Phe Ile His Asp Leu Arg His
485 490 495

Ser Ala Asn Ala Val Ala Ser Cys Met Arg Ser Leu Arg Gln Asp Asn
500 505 510

Asp Ser Cys Leu Thr Asp Phe Gly Pro Ser Gly Phe Met Ala Asp Asn
515 520 525

Ile Thr Ala Phe Met Glu Lys Tyr Leu Met Glu Ser Ile Asn Thr Glu
530 535 540

Glu Gln Ile Lys Val Phe Lys Ala Leu Ala Cys Pro Ile Glu Gln Pro
545 550 555 560

Arg Leu Val Asn Thr Ala Ile Leu Gly Ala Cys Ile Arg Ile Pro Glu
565 570 575

Ala Leu Glu Ala Phe Asp Val Phe Gln Lys Ile Tyr Thr His Tyr Ala
580 585 590

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Ser Gly Trp Phe Pro Val Leu Asp Lys Thr Gly Glu Phe Ser Ile Ala
595 600 605

Thr Ile Thr Thr Ala Pro Asn Leu Thr Thr His Trp Glu Leu Phe Arg
610 615 620

Arg Cys Ala Tyr Ile Ala Lys Thr Leu Lys Trp Asn Pro Ser Thr Glu
625 630 635 640

Gly Cys Val Thr Gln Val Leu Asp Thr Asp Ile Asn Thr Leu Phe Asn
645 650 655

Gln His Gly Asp Ser Leu Ala Gln Leu Ile Phe Glu Val Met Arg Cys
660 665 670

Asn Val Thr Asp Ala Lys Ile Ile Leu Asn Arg Pro Val Trp Arg Thr
675 680 685

Thr Gly Phe Leu Asp Gly Cys His Asn Gln Cys Phe Arg Pro Ile Pro
690 695 700

Thr Lys His Glu Tyr Asn Ile Ala Leu Phe Arg Leu Ile Trp Glu Gln
705 710 715 720

Leu Phe Gly Ala Arg Val Thr Lys Ser Thr Gln Thr Phe Pro Gly Ser
725 730 735

Thr Arg Val Lys Asn Leu Lys Lys Lys Asp Leu Glu Thr Leu Leu Asp
740 745 750

Ser Ile Asn Val Asp Arg Ser Ala Cys Arg Thr Tyr Arg Gln Leu Tyr
755 760 765

Asn Leu Leu Met Ser Gln Arg His Ser Phe Ser Gln Gln Arg Tyr Lys
770 775 780

Ile Thr Ala Pro Ala Trp Ala Arg His Val Tyr Phe Gln Ala His Gln
785 790 795 800

Met His Leu Ala Pro His Ala Glu Ala Met Leu Gln Leu Ala Leu Ser
805 810 815

Glu Leu Ser Pro Gly Ser Trp Pro Arg Ile Asn Gly Ala Val Asn Phe
820 825 830

Glu Ser Leu
835

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<210> 35
 <211> 771
 <212> PRT
 <213> Varicella zoster

<400> 35

Met Asp Ala Thr Gln Ile Thr Leu Val Arg Glu Ser Gly His Ile Cys
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Ala Ala Ser Ile Tyr Thr Ser Trp Thr Gln Ser Gly Gln Leu Thr Gln
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Asn Gly Leu Ser Val Leu Tyr Tyr Leu Leu Cys Lys Asn Ser Cys Gly
 35 40 45

Lys Tyr Val Pro Lys Phe Ala Glu Ile Thr Val Gln Gln Glu Asp Leu
 50 55 60

Cys Arg Tyr Ser Arg His Gly Gly Ser Val Ser Ala Ala Thr Phe Ala
 65 70 75 80

Ser Ile Cys Arg Ala Ala Ser Ser Ala Ala Leu Asp Ala Trp Pro Leu
 85 90 95

Glu Pro Leu Gly Asn Ala Asp Thr Trp Arg Cys Leu His Gly Thr Ala
 100 105 110

Leu Ala Thr Leu Arg Arg Val Leu Gly Phe Lys Ser Phe Tyr Ser Pro
 115 120 125

Val Thr Phe Glu Thr Asp Thr Asn Thr Gly Leu Leu Leu Lys Thr Ile
 130 135 140

Pro Asp Glu His Ala Leu Asn Asn Asp Asn Thr Pro Ser Thr Gly Val
 145 150 155 160

Leu Arg Ala Asn Phe Pro Val Ala Ile Asp Val Ser Ala Val Ser Ala
 165 170 175

Cys Asn Ala His Thr Gln Gly Thr Ser Leu Ala Tyr Ala Arg Leu Thr
 180 185 190

Ala Leu Lys Ser Asn Gly Asp Thr Gln Gln Gln Thr Pro Leu Asp Val
 195 200 205

Glu Val Ile Thr Pro Lys Ala Tyr Ile Arg Arg Lys Tyr Lys Ser Thr
 210 215 220

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Phe Ser Pro Pro Ile Glu Arg Glu Gly Gln Thr Ser Asp Leu Phe Asn
 225 230 235 240
 Leu Glu Glu Arg Arg Leu Val Leu Ser Gly Asn Arg Ala Ile Val Val
 245 250 255
 Arg Val Leu Leu Pro Cys Tyr Phe Asp Cys Leu Thr Thr Asp Ser Thr
 260 265 270
 Val Thr Ser Ser Leu Ser Ile Leu Ala Thr Tyr Arg Leu Trp Tyr Ala
 275 280 285
 Ala Ala Phe Gly Lys Pro Gly Val Val Arg Pro Ile Phe Ala Tyr Leu
 290 295 300
 Gly Pro Glu Leu Asn Pro Lys Gly Glu Asp Arg Asp Tyr Phe Cys Thr
 305 310 315 320
 Val Gly Phe Pro Gly Trp Thr Thr Leu Arg Thr Gln Thr Pro Ala Val
 325 330 335
 Glu Ser Ile Arg Thr Ala Thr Glu Met Tyr Met Glu Thr Asp Gly Leu
 340 345 350
 Trp Pro Val Thr Gly Ile Gln Ala Phe His Tyr Leu Ala Pro Trp Gly
 355 360 365
 Gln His Pro Pro Leu Pro Pro Arg Val Gln Asp Leu Ile Gly Gln Ile
 370 375 380
 Pro Gln Asp Thr Gly His Ala Asp Ala Thr Val Asn Trp Asp Ala Gly
 385 390 395 400
 Arg Ile Ser Thr Val Phe Lys Gln Pro Val Gln Leu Gln Asp Arg Trp
 405 410 415
 Met Ala Lys Phe Asp Phe Ser Ala Phe Phe Pro Thr Ile Tyr Cys Ala
 420 425 430
 Met Phe Pro Met His Phe Arg Leu Gly Lys Ile Val Leu Ala Arg Met
 435 440 445
 Arg Arg Gly Met Gly Cys Leu Lys Pro Ala Leu Val Ser Phe Phe Gly
 450 455 460

Gly Leu Arg His Ile Leu Pro Ser Ile Tyr Lys Ala Ile Ile Phe Ile
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465 470 475 480
 Ala Asn Glu Ile Ser Leu Cys Val Glu Gln Thr Ala Leu Glu Gln Gly
 485 490 495
 Phe Ala Ile Cys Thr Tyr Ile Lys Asp Gly Phe Trp Gly Ile Phe Thr
 500 505 510
 Asp Leu His Thr Arg Asn Val Cys Ser Asp Gln Ala Arg Cys Ser Ala
 515 520 525
 Leu Asn Leu Ala Ala Thr Cys Glu Arg Ala Val Thr Gly Leu Leu Arg
 530 535 540
 Ile Gln Leu Gly Leu Asn Phe Thr Pro Ala Met Glu Pro Val Leu Arg
 545 550 555 560
 Val Glu Gly Val Tyr Thr His Ala Phe Thr Trp Cys Thr Thr Gly Ser
 565 570 575
 Trp Leu Trp Asn Leu Gln Thr Asn Thr Pro Pro Asp Leu Val Gly Val
 580 585 590
 Pro Trp Arg Ser Gln Ala Ala Arg Asp Leu Lys Glu Arg Leu Ser Gly
 595 600 605
 Leu Leu Cys Thr Ala Thr Lys Ile Arg Glu Arg Ile Gln Glu Asn Cys
 610 615 620
 Ile Trp Asp His Val Leu Tyr Asp Ile Trp Ala Gly Gln Val Val Glu
 625 630 635 640
 Ala Ala Arg Lys Thr Tyr Val Asp Phe Phe Glu His Val Phe Asp Arg
 645 650 655
 Arg Tyr Thr Pro Val Tyr Trp Ser Leu Gln Glu Gln Asn Ser Glu Thr
 660 665 670
 Lys Ala Ile Pro Ala Ser Tyr Leu Thr Tyr Gly His Met Gln Asp Lys
 675 680 685
 Asp Tyr Lys Pro Arg Gln Ile Ile Met Val Arg Asn Pro Asn Pro His
 690 695 700
 Gly Pro Pro Thr Val Val Tyr Trp Glu Leu Leu Pro Ser Cys Ala Cys
 705 710 715 720

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Ile Pro Pro Ile Asp Cys Ala Ala His Leu Lys Pro Leu Ile His Thr
725 730 735

Phe Val Thr Ile Ile Asn His Leu Leu Asp Ala His Asn Asp Phe Ser
740 745 750

Ser Pro Ser Leu Lys Phe Thr Asp Asp Pro Leu Ala Ser Tyr Asn Phe
755 760 765

Leu Phe Leu
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<210> 36
<211> 881
<212> PRT
<213> Varicella zoster

<400> 36

Met Lys Arg Ser Ile Ser Val Asp Ser Ser Ser Pro Lys Asn Val Phe
1 5 10 15

Asn Pro Glu Thr Pro Asn Gly Phe Asp Asp Ser Val Tyr Leu Asn Phe
20 25 30

Thr Ser Met His Ser Ile Gln Pro Ile Leu Ser Arg Ile Arg Glu Leu
35 40 45

Ala Ala Ile Thr Ile Pro Lys Glu Arg Val Pro Arg Leu Cys Trp Phe
50 55 60

Lys Gln Leu Leu Glu Leu Gln Ala Pro Pro Glu Met Gln Arg Asn Glu
65 70 75 80

Leu Pro Phe Ser Val Tyr Leu Ile Ser Gly Asn Ala Gly Ser Gly Lys
85 90 95

Ser Thr Cys Ile Gln Thr Leu Asn Glu Ala Ile Asp Cys Ile Ile Thr
100 105 110

Gly Ser Thr Arg Val Ala Ala Gln Asn Val His Ala Lys Leu Ser Thr
115 120 125

Ala Tyr Ala Ser Arg Pro Ile Asn Thr Ile Phe His Glu Phe Gly Phe
130 135 140

Arg Gly Asn His Ile Gln Ala Gln Leu Gly Arg Tyr Ala Tyr Asn Trp
145 150 155 160

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Thr Thr Thr Pro Pro Ser Ile Glu Asp Leu Gln Lys Arg Asp Ile Val
165 170 175

Tyr Tyr Trp Glu Val Leu Ile Asp Ile Thr Lys Arg Val Phe Gln Met
180 185 190

Gly Asp Asp Gly Arg Gly Gly Thr Ser Thr Phe Lys Thr Leu Trp Ala
195 200 205

Ile Glu Arg Leu Leu Asn Lys Pro Thr Gly Ser Met Ser Gly Thr Ala
210 215 220

Phe Ile Ala Cys Gly Ser Leu Pro Ala Phe Thr Arg Ser Asn Val Ile
225 230 235 240

Val Ile Asp Glu Ala Gly Leu Leu Gly Arg His Ile Leu Thr Ala Val
245 250 255

Val Tyr Cys Trp Trp Leu Leu Asn Ala Ile Tyr Gln Ser Pro Gln Tyr
260 265 270

Ile Asn Gly Arg Lys Pro Val Ile Val Cys Val Gly Ser Pro Thr Gln
275 280 285

Thr Asp Ser Leu Glu Ser His Phe Gln His Asp Met Gln Arg Ser His
290 295 300

Val Thr Pro Ser Glu Asn Ile Leu Thr Tyr Ile Ile Cys Asn Gln Thr
305 310 315 320

Leu Arg Gln Tyr Thr Asn Ile Ser His Asn Trp Ala Ile Phe Ile Asn
325 330 335

Asn Lys Arg Cys Gln Glu Asp Asp Phe Gly Asn Leu Leu Lys Thr Leu
340 345 350

Glu Tyr Gly Leu Pro Ile Thr Glu Ala His Ala Arg Leu Val Asp Thr
355 360 365

Phe Val Val Pro Ala Ser Tyr Ile Asn Asn Pro Ala Asn Leu Pro Gly
370 375 380

Trp Thr Arg Leu Tyr Ser Ser His Lys Glu Val Ser Ala Tyr Met Ser
385 390 395 400

Lys Leu His Ala His Leu Lys Leu Ser Lys Asn Asp His Phe Ser Val
405 410 415

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Phe Ala Leu Pro Thr Tyr Thr Phe Ile Arg Leu Thr Ala Phe Asp Glu
 420 425 430
 Tyr Arg Lys Leu Thr Gly Gln Pro Gly Leu Ser Val Glu His Trp Ile
 435 440 445
 Arg Ala Asn Ser Gly Arg Leu His Asn Tyr Ser Gln Ser Arg Asp His
 450 455 460
 Asp Met Gly Thr Val Lys Tyr Glu Thr His Ser Asn Arg Asp Leu Ile
 465 470 475 480
 Val Ala Arg Thr Asp Ile Thr Tyr Val Leu Asn Ser Leu Val Val Val
 485 490 495
 Thr Thr Arg Leu Arg Lys Leu Val Ile Gly Phe Ser Gly Thr Phe Gln
 500 505 510
 Ser Phe Ala Lys Val Leu Arg Asp Asp Ser Phe Val Lys Ala Arg Gly
 515 520 525
 Glu Thr Ser Ile Glu Tyr Ala Tyr Arg Phe Leu Ser Asn Leu Ile Phe
 530 535 540
 Gly Gly Leu Ile Asn Phe Tyr Asn Phe Leu Leu Asn Lys Asn Leu His
 545 550 555 560
 Pro Asp Lys Val Ser Leu Ala Tyr Lys Arg Leu Ala Ala Leu Thr Leu
 565 570 575
 Glu Leu Leu Ser Gly Thr Asn Lys Ala Pro Leu His Glu Ala Ala Val
 580 585 590
 Asn Gly Ala Gly Ala Gly Ile Asp Cys Asp Gly Ala Ala Thr Ser Ala
 595 600 605
 Asp Lys Ala Phe Cys Phe Thr Lys Ala Pro Glu Ser Lys Val Thr Ala
 610 615 620
 Ser Ile Pro Glu Asp Pro Asp Asp Val Ile Phe Thr Ala Leu Asn Asp
 625 630 635 640
 Glu Val Ile Asp Leu Val Tyr Cys Gln Tyr Glu Phe Ser Tyr Pro Lys
 645 650 655
 Ser Ser Asn Glu Val His Ala Gln Phe Leu Leu Met Lys Ala Ile Tyr
 660 665 670

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Asp Gly Arg Tyr Ala Ile Leu Ala Glu Leu Phe Glu Ser Ser Phe Thr
675 680 685

Thr Ala Pro Phe Ser Ala Tyr Val Asp Asn Val Asn Phe Asn Gly Ser
690 695 700

Glu Leu Leu Ile Gly Asn Val Arg Gly Gly Leu Leu Ser Leu Ala Leu
705 710 715 720

Gln Thr Asp Thr Tyr Thr Leu Leu Gly Tyr Thr Phe Ala Pro Val Pro
725 730 735

Val Phe Val Glu Glu Leu Thr Arg Lys Lys Leu Tyr Arg Glu Thr Thr
740 745 750

Glu Met Leu Tyr Ala Leu His Val Pro Leu Met Val Leu Gln Asp Gln
755 760 765

His Gly Phe Val Ser Ile Val Asn Ala Asn Val Cys Glu Phe Thr Glu
770 775 780

Ser Ile Glu Asp Ala Glu Leu Ala Met Ala Thr Thr Val Asp Tyr Gly
785 790 795 800

Leu Ser Ser Lys Leu Ala Met Thr Ile Ala Arg Ser Gln Gly Leu Ser
805 810 815

Leu Glu Lys Val Ala Ile Cys Phe Thr Ala Asp Lys Leu Arg Leu Asn
820 825 830

Ser Val Tyr Val Ala Met Ser Arg Thr Val Ser Ser Arg Phe Leu Lys
835 840 845

Met Asn Leu Asn Pro Leu Arg Glu Arg Tyr Glu Lys Ser Ala Glu Ile
850 855 860

Ser Asp His Ile Leu Ala Ala Leu Arg Asp Pro Asn Val His Val Val
865 870 875 880

Tyr

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Pro Gly Ala Ser Val Asp Val Asn Gly Lys Met Glu Tyr Gly Ser Ala
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Pro Gly Pro Leu Asn Gly Arg Asp Thr Ser Arg Gly Pro Gly Ala Phe
35 40 45

Cys Thr Pro Gly Trp Glu Ile His Pro Ala Arg Leu Val Glu Asp Ile
50 55 60

Asn Arg Val Phe Leu Cys Ile Ala Gln Ser Ser Gly Arg Val Thr Arg
65 70 75 80

Asp Ser Arg Arg Leu Arg Arg Ile Cys Leu Asp Phe Tyr Leu Met Gly
85 90 95

Arg Thr Arg Gln Arg Pro Thr Leu Ala Cys Trp Glu Glu Leu Leu Gln
100 105 110

Leu Gln Pro Thr Gln Thr Gln Cys Leu Arg Ala Thr Leu Met Glu Val
115 120 125

Ser His Arg Pro Pro Arg Gly Glu Asp Gly Phe Ile Glu Ala Pro Asn
130 135 140

Val Pro Leu His Arg Ser Ala Leu Glu Cys Asp Val Ser Asp Asp Gly
145 150 155 160

Gly Glu Asp Asp Ser Asp Asp Asp Gly Ser Thr Pro Ser Asp Val Ile
165 170 175

Glu Phe Arg Asp Ser Asp Ala Glu Ser Ser Asp Gly Glu Asp Phe Ile
180 185 190

Val Glu Glu Glu Ser Glu Glu Ser Thr Asp Ser Cys Glu Pro Asp Gly
195 200 205

Val Pro Gly Asp Cys Tyr Arg Asp Gly Asp Gly Cys Asn Thr Pro Ser
210 215 220

Pro Lys Arg Pro Gln Arg Ala Ile Glu Arg Tyr Ala Gly Ala Glu Thr
225 230 235 240

Ala Glu Tyr Thr Ala Ala Lys Ala Leu Thr Ala Leu Gly Glu Gly Gly
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250

255

Val Asp Trp Lys Arg Arg Arg His Glu Ala Pro Arg Arg His Asp Ile
 260 265 270

Pro Pro Pro His Gly Val
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Met Asn Leu Cys Gly Ser Arg Gly Glu His Pro Gly Gly Glu Tyr Ala
 1 5 10 15

Gly Leu Tyr Cys Thr Arg His Asp Thr Pro Ala His Gln Ala Leu Met
 20 25 30

Asn Asp Ala Glu Arg Tyr Phe Ala Ala Ala Leu Cys Ala Ile Ser Thr
 35 40 45

Glu Ala Tyr Glu Ala Phe Ile His Ser Pro Ser Glu Arg Pro Cys Ala
 50 55 60

Ser Leu Trp Gly Arg Ala Lys Asp Ala Phe Gly Arg Met Cys Gly Glu
 65 70 75 80

Leu Ala Ala Asp Arg Gln Arg Pro Pro Ser Val Pro Pro Ile Arg Arg
 85 90 95

Ala Val Leu Ser Leu Leu Arg Glu Gln Cys Met Pro Asp Pro Gln Ser
 100 105 110

His Leu Glu Leu Ser Glu Arg Leu Ile Leu Met Ala Tyr Trp Cys Cys
 115 120 125

Leu Gly His Ala Gly Leu Pro Thr Ile Gly Leu Ser Pro Asp Asn Lys
 130 135 140

Cys Ile Arg Ala Glu Leu Tyr Asp Arg Pro Gly Gly Ile Cys His Arg
 145 150 155 160

Leu Phe Asp Ala Tyr Leu Gly Cys Gly Ser Leu Gly Val Pro Arg Thr
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Tyr Glu Arg Ser

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Arg Gly Ala Ile Ser Thr Ser Pro Ser His Ile Met Gln Thr Cys Gly
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Phe Ile Gln Gln Met Phe Pro Val Glu Met Ser Pro Gly Ile Glu Ser
 35 40 45

Glu Asp Asp Pro Asn Tyr Asp Val Asn Met Asp Ile Gln Ser Phe Asn
 50 55 60

Ile Phe Asp Gly Val His Glu Thr Glu Ala Glu Ala Ser Val Ala Leu
 65 70 75 80

Cys Ala Glu Ala Arg Val Gly Ile Asn Lys Ala Gly Phe Val Ile Leu
 85 90 95

Lys Thr Phe Thr Pro Gly Ala Glu Gly Phe Ala Phe Ala Cys Met Asp
 100 105 110

Ser Lys Thr Cys Glu His Val Val Ile Lys Ala Gly Gln Arg Gln Gly
 115 120 125

Thr Ala Thr Glu Ala Thr Val Leu Arg Ala Leu Thr His Pro Ser Val
 130 135 140

Val Gln Leu Lys Gly Thr Phe Thr Tyr Asn Lys Met Thr Cys Leu Ile
 145 150 155 160

Leu Pro Arg Tyr Arg Thr Asp Leu Tyr Cys Tyr Leu Ala Ala Lys Arg
 165 170 175

Asn Leu Pro Ile Cys Asp Ile Leu Ala Ile Gln Arg Ser Val Leu Arg
 180 185 190

Ala Leu Gln Tyr Leu His Asn Asn Ser Ile Ile His Arg Asp Ile Lys
 195 200 205

Ser Glu Asn Ile Phe Ile Asn His Pro Gly Asp Val Cys Val Gly Asp
 Page 224

210

215

Phe Gly Ala Ala Cys Phe Pro Val Asp Ile Asn Ala Asn Arg Tyr Tyr
225 230 235 240

Gly Trp Ala Gly Thr Ile Ala Thr Asn Ser Pro Glu Leu Leu Ala Arg
245 250 255

Asp Pro Tyr Gly Pro Ala Val Asp Ile Trp Ser Ala Gly Ile Val Leu
260 265 270

Phe Glu Met Ala Thr Gly Gln Asn Ser Leu Phe Glu Arg Asp Gly Leu
275 280 285

Asp Gly Asn Cys Asp Ser Glu Arg Gln Ile Lys Leu Ile Ile Arg Arg
290 295 300

Ser Gly Thr His Pro Asn Glu Phe Pro Ile Asn Pro Thr Ser Asn Leu
305 310 315 320

Arg Arg Gln Tyr Ile Gly Leu Ala Lys Arg Ser Ser Arg Lys Pro Gly
325 330 335

Ser Arg Pro Leu Trp Thr Asn Leu Tyr Glu Leu Pro Ile Asp Leu Glu
340 345 350

Tyr Leu Ile Cys Lys Met Leu Ser Phe Asp Ala Arg His Arg Pro Ser
355 360 365

Ala Glu Val Leu Leu Asn His Ser Val Phe Gln Thr Leu Pro Asp Pro
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Tyr Pro Asn Pro Met Glu Val Gly Asp
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Val Thr Asn Ala Leu Ile Phe Lys Gly Asp His Val Ser Leu Gln Val
20 25 30

Asn Ser Ser Leu Thr Ser Ile Leu Ile Pro Met Gln Asn Asp Asn Tyr
Page 225

35

40

45

Thr Glu Ile Lys Gly Gln Leu Val Phe Ile Gly Glu Gln Leu Pro Thr
 50 55 60
 Gly Thr Asn Tyr Ser Gly Thr Leu Glu Leu Tyr Ala Asp Thr Val
 65 70 75 80
 Ala Phe Cys Phe Arg Ser Val Gln Val Ile Arg Tyr Asp Gly Cys Pro
 85 90 95
 Arg Ile Arg Thr Ser Ala Phe Ile Ser Cys Arg Tyr Lys His Ser Trp
 100 105 110
 His Tyr Gly Asn Ser Thr Asp Arg Ile Ser Thr Glu Pro Asp Ala Gly
 115 120 125
 Val Met Leu Lys Ile Thr Lys Pro Gly Ile Asn Asp Ala Gly Val Tyr
 130 135 140
 Val Leu Leu Val Arg Leu Asp His Ser Arg Ser Thr Asp Gly Phe Ile
 145 150 155 160
 Leu Gly Val Asn Val Tyr Thr Ala Gly Ser His His Asn Ile His Gly
 165 170 175
 Val Ile Tyr Thr Ser Pro Ser Leu Gln Asn Gly Tyr Ser Thr Arg Ala
 180 185 190
 Leu Phe Gln Gln Ala Arg Leu Cys Asp Leu Pro Ala Thr Pro Lys Gly
 195 200 205
 Ser Gly Thr Ser Leu Phe Gln His Met Leu Asp Leu Arg Ala Gly Lys
 210 215 220
 Ser Leu Glu Asp Asn Pro Trp Leu His Glu Asp Val Val Thr Thr Glu
 225 230 235 240
 Thr Lys Ser Val Val Lys Glu Gly Ile Glu Asn His Val Tyr Pro Thr
 245 250 255
 Asp Met Ser Thr Leu Pro Glu Lys Ser Leu Asn Asp Pro Pro Glu Asn
 260 265 270
 Leu Leu Ile Ile Ile Pro Ile Val Ala Ser Val Met Ile Leu Thr Ala
 275 280 285

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Met Val Ile Val Ile Val Ile Ser Val Lys Arg Arg Arg Ile Lys Lys
290 295 300

His Pro Ile Tyr Arg Pro Asn Thr Lys Thr Arg Arg Gly Ile Gln Asn
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Ala Thr Pro Glu Ser Asp Val Met Leu Glu Ala Ala Ile Ala Gln Leu
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Ala Thr Ile Arg Glu Glu Ser Pro Pro His Ser Val Val Asn Pro Phe
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Val Lys

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Leu Arg Tyr Asp Asp Phe His Thr Asp Glu Asp Lys Leu Asp Thr Asn
35 40 45

Ser Val Tyr Glu Pro Tyr Tyr His Ser Asp His Ala Glu Ser Ser Trp
50 55 60

Val Asn Arg Gly Glu Ser Ser Arg Lys Ala Tyr Asp His Asn Ser Pro
65 70 75 80

Tyr Ile Trp Pro Arg Asn Asp Tyr Asp Gly Phe Leu Glu Asn Ala His
85 90 95

Glu His His Gly Val Tyr Asn Gln Gly Arg Gly Ile Asp Ser Gly Glu
100 105 110

Arg Leu Met Gln Pro Thr Gln Met Ser Ala Gln Glu Asp Leu Gly Asp
115 120 125

Asp Thr Gly Ile His Val Ile Pro Thr Leu Asn Gly Asp Asp Arg His
130 135 140

591508037SeqListAug2010

Lys Ile Val Asn Val Asp Gln Arg Gln Tyr Gly Asp Val Phe Lys Gly
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 Glu Glu Asn His Pro Phe Thr Leu Arg Ala Pro Ile Gln Arg Ile Tyr
 180 185 190
 Gly Val Arg Tyr Thr Glu Thr Trp Ser Phe Leu Pro Ser Leu Thr Cys
 195 200 205
 Thr Gly Asp Ala Ala Pro Ala Ile Gln His Ile Cys Leu Lys His Thr
 210 215 220
 Thr Cys Phe Gln Asp Val Val Val Asp Val Asp Cys Ala Glu Asn Thr
 225 230 235 240
 Lys Glu Asp Gln Leu Ala Glu Ile Ser Tyr Arg Phe Gln Gly Lys Lys
 245 250 255
 Glu Ala Asp Gln Pro Trp Ile Val Val Asn Thr Ser Thr Leu Phe Asp
 260 265 270
 Glu Leu Glu Leu Asp Pro Pro Glu Ile Glu Pro Gly Val Leu Lys Val
 275 280 285
 Leu Arg Thr Glu Lys Gln Tyr Leu Gly Val Tyr Ile Trp Asn Met Arg
 290 295 300
 Gly Ser Asp Gly Thr Ser Thr Tyr Ala Thr Phe Leu Val Thr Trp Lys
 305 310 315 320
 Gly Asp Glu Lys Thr Arg Asn Pro Thr Pro Ala Val Thr Pro Gln Pro
 325 330 335
 Arg Gly Ala Glu Phe His Met Trp Asn Tyr His Ser His Val Phe Ser
 340 345 350
 Val Gly Asp Thr Phe Ser Leu Ala Met His Leu Gln Tyr Lys Ile His
 355 360 365
 Glu Ala Pro Phe Asp Leu Leu Leu Glu Trp Leu Tyr Val Pro Ile Asp
 370 375 380
 Pro Thr Cys Gln Pro Met Arg Leu Tyr Ser Thr Cys Leu Tyr His Pro
 385 390 395 400

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Asn Ala Pro Gln Cys Leu Ser His Met Asn Ser Gly Cys Thr Phe Thr
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Ser Pro His Leu Ala Gln Arg Val Ala Ser Thr Val Tyr Gln Asn Cys
420 425 430

Glu His Ala Asp Asn Tyr Thr Ala Tyr Cys Leu Gly Ile Ser His Met
435 440 445

Glu Pro Ser Phe Gly Leu Ile Leu His Asp Gly Gly Thr Thr Leu Lys
450 455 460

Phe Val Asp Thr Pro Glu Ser Leu Ser Gly Leu Tyr Val Phe Val Val
465 470 475 480

Tyr Phe Asn Gly His Val Glu Ala Val Ala Tyr Thr Val Val Ser Thr
485 490 495

Val Asp His Phe Val Asn Ala Ile Glu Glu Arg Gly Phe Pro Pro Thr
500 505 510

Ala Gly Gln Pro Pro Ala Thr Thr Lys Pro Lys Glu Ile Thr Pro Val
515 520 525

Asn Pro Gly Thr Ser Pro Leu Leu Arg Tyr Ala Ala Trp Thr Gly Gly
530 535 540

Leu Ala Ala Val Val Leu Leu Cys Leu Val Ile Phe Leu Ile Cys Thr
545 550 555 560

Ala Lys Arg Met Arg Val Lys Ala Tyr Arg Val Asp Lys Ser Pro Tyr
565 570 575

Asn Gln Ser Met Tyr Tyr Ala Gly Leu Pro Val Asp Asp Phe Glu Asp
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<400> 42

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 Ala Glu His Arg Ala Arg Val Val Thr Ser Ser Gln Pro Asp Asp Leu
 35 40 45
 Leu Phe Gly Glu Asn Gly Val Met Val Gly Arg Glu His Glu Ile Val
 50 55 60
 Ser Ile Pro Ser Val Ser Gly Leu Gln Pro Glu Pro Arg Thr Glu Asp
 65 70 75 80
 Val Gly Glu Glu Leu Thr Gln Asp Asp Tyr Val Cys Glu Asp Gly Gln
 85 90 95
 Asp Leu Met Gly Ser Pro Val Ile Pro Leu Ala Glu Val Phe His Thr
 100 105 110
 Arg Phe Ser Glu Ala Gly Ala Arg Glu Pro Thr Gly Ala Asp Arg Ser
 115 120 125
 Leu Glu Thr Val Ser Leu Gly Thr Lys Leu Ala Arg Ser Pro Lys Pro
 130 135 140
 Pro Met Asn Asp Gly Glu Thr Gly Arg Gly Thr Thr Pro Pro Phe Pro
 145 150 155 160
 Gln Ala Phe Ser Pro Val Ser Pro Ala Ser Pro Val Gly Asp Ala Ala
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 Gly Asn Asp Gln Arg Glu Asp Gln Arg Ser Ile Pro Arg Gln Thr Thr
 180 185 190
 Arg Gly Asn Ser Pro Gly Leu Pro Ser Val Val His Arg Asp Arg Gln
 195 200 205
 Thr Gln Ser Ile Ser Gly Lys Lys Pro Gly Asp Glu Gln Ala Gly His
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 Ala His Ala Ser Gly Asp Gly Val Val Leu Gln Lys Thr Gln Arg Pro
 225 230 235 240
 Ala Gln Gly Lys Ser Pro Lys Lys Lys Thr Leu Lys Val Lys Val Pro
 245 250 255

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Leu Pro Ala Arg Lys Pro Gly Gly Pro Val Pro Gly Pro Val Glu Gln
 260 265 270
 Leu Tyr His Val Leu Ser Asp Ser Val Pro Ala Lys Gly Ala Lys Ala
 275 280 285
 Asp Leu Pro Phe Glu Thr Asp Asp Thr Arg Pro Arg Lys His Asp Ala
 290 295 300
 Arg Gly Ile Thr Pro Arg Val Pro Gly Arg Ser Ser Gly Gly Lys Pro
 305 310 315 320
 Arg Ala Phe Leu Ala Leu Pro Gly Arg Ser His Ala Pro Asp Pro Ile
 325 330 335
 Glu Asp Asp Ser Pro Val Glu Lys Lys Pro Lys Ser Arg Glu Phe Val
 340 345 350
 Ser Ser Ser Ser Ser Ser Ser Trp Gly Ser Ser Ser Glu Asp Glu
 355 360 365
 Asp Asp Glu Pro Arg Arg Val Ser Val Gly Ser Glu Thr Thr Gly Ser
 370 375 380
 Arg Ser Gly Arg Glu His Ala Pro Ser Pro Ser Asn Ser Asp Asp Ser
 385 390 395 400
 Asp Ser Asn Asp Gly Gly Ser Thr Lys Gln Asn Ile Gln Pro Gly Tyr
 405 410 415
 Arg Ser Ile Ser Gly Pro Asp Pro Arg Ile Arg Lys Thr Lys Arg Leu
 420 425 430
 Ala Gly Glu Pro Gly Arg Gln Arg Gln Lys Ser Phe Ser Leu Pro Arg
 435 440 445
 Ser Arg Thr Pro Ile Ile Pro Pro Val Ser Gly Pro Leu Met Met Pro
 450 455 460
 Asp Gly Ser Pro Trp Pro Gly Ser Ala Pro Leu Pro Ser Asn Arg Val
 465 470 475 480
 Arg Phe Gly Pro Ser Gly Glu Thr Arg Glu Gly His Trp Glu Asp Glu
 485 490 495

Ala Val Arg Ala Ala Arg Ala Arg Tyr Glu Ala Ser Thr Glu Pro Val
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500

505

510

Pro Leu Tyr Val Pro Glu Leu Gly Asp Pro Ala Arg Gln Tyr Arg Ala
 515 520 525
 Leu Ile Asn Leu Ile Tyr Cys Pro Asp Arg Asp Pro Ile Ala Trp Leu
 530 535 540
 Gln Asn Pro Lys Leu Thr Gly Val Asn Ser Ala Leu Asn Gln Phe Tyr
 545 550 555 560
 Gln Lys Leu Leu Pro Pro Gly Arg Ala Gly Thr Ala Val Thr Gly Ser
 565 570 575
 Val Ala Ser Pro Val Pro His Val Gly Glu Ala Met Ala Thr Gly Glu
 580 585 590
 Ala Leu Trp Ala Leu Pro His Ala Ala Ala Ala Val Ala Met Ser Arg
 595 600 605
 Arg Tyr Asp Arg Ala Gln Lys His Phe Ile Leu Gln Ser Leu Arg Arg
 610 615 620
 Ala Phe Ala Ser Met Ala Tyr Pro Glu Ala Thr Gly Ser Ser Pro Ala
 625 630 635 640
 Ala Arg Ile Ser Arg Gly His Pro Ser Pro Thr Thr Pro Ala Thr Gln
 645 650 655
 Ala Pro Asp Pro Gln Pro Ser Ala Ala Ala Arg Ser Leu Ser Val Cys
 660 665 670
 Pro Pro Asp Asp Arg Leu Arg Thr Pro Arg Lys Arg Lys Ser Gln Pro
 675 680 685
 Val Glu Ser Arg Ser Leu Leu Asp Lys Ile Arg Glu Thr Pro Val Ala
 690 695 700
 Asp Ala Arg Val Ala Asp Asp His Val Val Ser Lys Ala Lys Arg Arg
 705 710 715 720
 Val Ser Glu Pro Val Thr Ile Thr Ser Gly Pro Val Val Asp Pro Pro
 725 730 735
 Ala Val Ile Thr Met Pro Leu Asp Gly Pro Ala Pro Asn Gly Gly Phe
 740 745 750

591508037SeqListAug2010

Arg Arg Ile Pro Arg Gly Ala Leu His Thr Pro Val Pro Ser Asp Gln
755 760 765

Ala Arg Lys Ala Tyr Cys Thr Pro Glu Thr Ile Ala Arg Leu Val Asp
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Asp Pro Leu Phe Pro Thr Ala Trp Arg Pro Ala Leu Ser Phe Asp Pro
785 790 795 800

Gly Ala Leu Ala Glu Ile Ala Ala Arg Arg Pro Gly Gly Gly Asp Arg
805 810 815

Arg Phe Gly Pro Pro Ser Gly Val Glu Ala Leu Arg Arg Arg Cys Ala
820 825 830

Trp Met Arg Gln Ile Pro Asp Pro Glu Asp Val Arg Leu Leu Ile Ile
835 840 845

Tyr Asp Pro Leu Pro Gly Glu Asp Ile Asn Gly Pro Leu Glu Ser Thr
850 855 860

Leu Ala Thr Asp Pro Gly Pro Ser Trp Ser Pro Ser Arg Gly Gly Leu
865 870 875 880

Ser Val Val Leu Ala Ala Leu Ser Asn Arg Leu Cys Leu Pro Ser Thr
885 890 895

His Ala Trp Ala Gly Asn Trp Thr Gly Pro Pro Asp Val Ser Ala Leu
900 905 910

Asn Ala Arg Gly Val Leu Leu Leu Ser Thr Arg Asp Leu Ala Phe Ala
915 920 925

Gly Ala Val Glu Tyr Leu Gly Ser Arg Leu Ala Ser Ala Arg Arg Arg
930 935 940

Leu Leu Val Leu Asp Ala Val Ala Leu Glu Arg Trp Pro Arg Asp Gly
945 950 955 960

Pro Ala Leu Ser Gln Tyr His Val Tyr Val Arg Ala Pro Ala Arg Pro
965 970 975

Asp Ala Gln Ala Val Val Arg Trp Pro Asp Ser Ala Val Thr Glu Gly
980 985 990

Leu Ala Arg Ala Val Phe Ala Ser Ser Arg Thr Phe Gly Pro Ala Ser
995 1000 1005

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Phe	Ala	Arg	Ile	Glu	Thr	Ala	Phe	Ala	Asn	Leu	Tyr	Pro	Gly	Glu
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Cys	Thr	Arg	Ala	Gly	Pro	Lys	Thr	Arg	Val	Pro	Leu	Ser	Pro	Arg
	1040					1045					1050			
Glu	Tyr	Arg	Gln	Tyr	Val	Leu	Pro	Gly	Phe	Asp	Gly	Cys	Lys	Asp
	1055					1060					1065			
Leu	Ala	Arg	Gln	Ser	Arg	Gly	Leu	Gly	Leu	Gly	Ala	Ala	Asp	Phe
	1070					1075					1080			
Val	Asp	Glu	Ala	Ala	His	Ser	His	Arg	Ala	Ala	Asn	Arg	Trp	Gly
	1085					1090					1095			
Leu	Gly	Ala	Ala	Leu	Arg	Pro	Val	Phe	Leu	Pro	Glu	Gly	Arg	Arg
	1100					1105					1110			
Pro	Gly	Ala	Ala	Gly	Pro	Glu	Ala	Gly	Asp	Val	Pro	Thr	Trp	Ala
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Arg	Val	Phe	Cys	Arg	His	Ala	Leu	Leu	Glu	Pro	Asp	Pro	Ala	Ala
	1130					1135					1140			
Glu	Pro	Leu	Val	Leu	Pro	Pro	Val	Ala	Gly	Arg	Ser	Val	Ala	Leu
	1145					1150					1155			
Tyr	Ala	Ser	Ala	Asp	Glu	Ala	Arg	Asn	Ala	Leu	Pro	Pro	Ile	Pro
	1160					1165					1170			
Arg	Val	Met	Trp	Pro	Pro	Gly	Phe	Gly	Ala	Ala	Glu	Thr	Val	Leu
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Glu	Gly	Ser	Asp	Gly	Thr	Arg	Phe	Val	Phe	Gly	His	His	Gly	Gly
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Ser	Glu	Arg	Pro	Ser	Glu	Thr	Gln	Ala	Gly	Arg	Gln	Arg	Arg	Thr
	1205					1210					1215			
Ala	Asp	Asp	Arg	Glu	His	Ala	Leu	Glu	Leu	Asp	Asp	Trp	Glu	Val
	1220					1225					1230			
Gly	Cys	Glu	Asp	Ala	Trp	Asp	Ser	Glu	Glu	Gly	Gly	Gly	Asp	Asp
	1235					1240					1245			

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Gly Asp Ala Pro Gly Ser Ser Phe Gly Val Ser Ile Val Ser Val
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Ala Pro Gly Val Leu Arg Asp Arg Arg Val Gly Leu Arg Pro Ala
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Val Lys Val Glu Leu Leu Ser Ser Ser Ser Ser Ser Glu Asp Glu
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Arg Gly
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Pro His Ser Tyr Glu Met Glu Asp Leu Cys Phe Asp Asp Met Gln Tyr
20 25 30

cgc tgg tct ccc tcg aac aca ccc tat cga agt atg tct agg cga tat 144
Arg Trp Ser Pro Ser Asn Thr Pro Tyr Arg Ser Met Ser Arg Arg Tyr
35 40 45

aaa tcc gta tct cgg agc ggg cct tcg atg cgt gta cgc tcc aga acg 192
Lys Ser Val Ser Arg Ser Gly Pro Ser Met Arg Val Arg Ser Arg Thr
50 55 60

cca tgc cgc cgt caa acc att cga gga aaa ctt atg tca aag gag cgg 240
Pro Cys Arg Arg Gln Thr Ile Arg Gly Lys Leu Met Ser Lys Glu Arg
65 70 75 80

tct gtg tac cgc cat tat ttt aat tac atc gca agg tcc ccc cca gaa 288
Ser Val Tyr Arg His Tyr Phe Asn Tyr Ile Ala Arg Ser Pro Pro Glu
85 90 95

gaa cta gct acc gtt aga ggc tta atc gtg cca att att aag acg acc 336
Glu Leu Ala Thr Val Arg Gly Leu Ile Val Pro Ile Ile Lys Thr Thr
100 105 110

cct gtc acc ctt ccg ttt aac ttg ggt cag aca gtg gcg gat aac tgc 384
Pro Val Thr Leu Pro Phe Asn Leu Gly Gln Thr Val Ala Asp Asn Cys
115 120 125 130

115	120	125	
ctg tcg tta tcc gga atg ggt tat cat tta ggt ctc gga ggt tat tgt Leu Ser Leu Ser Gly Met Gly Tyr His Leu Gly Leu Gly Gly Tyr Cys 130 135 140			432
ccg aca tgc act gca tct gga gaa ccg cgt cta tgt cga acc gat cgg Pro Thr Cys Thr Ala Ser Gly Glu Pro Arg Leu Cys Arg Thr Asp Arg 145 150 155 160			480
gcg gct ctg ata cta gca tat gtt cag cag ctt aac aac ata tac gaa Ala Ala Leu Ile Leu Ala Tyr Val Gln Gln Leu Asn Asn Ile Tyr Glu 165 170 175			528
tat cgt gtg ttt ctt gca tcc att ttg gcg cta tca gac cga gcc aac Tyr Arg Val Phe Leu Ala Ser Ile Leu Ala Leu Ser Asp Arg Ala Asn 180 185 190			576
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ccg gaa tta ttt ttt atg tat cat att atg agg gag ggg ggc atg cga Pro Glu Leu Phe Phe Met Tyr His Ile Met Arg Glu Gly Gly Met Arg 210 215 220			672
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<213> Varicella zoster

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			20					25					30		
Arg	Trp	Ser	Pro	Ser	Asn	Thr	Pro	Tyr	Arg	Ser	Met	Ser	Arg	Arg	Tyr
		35					40					45			
Lys	Ser	Val	Ser	Arg	Ser	Gly	Pro	Ser	Met	Arg	Val	Arg	Ser	Arg	Thr
	50					55					60				
Pro	Cys	Arg	Arg	Gln	Thr	Ile	Arg	Gly	Lys	Leu	Met	Ser	Lys	Glu	Arg
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Ser	Val	Tyr	Arg	His	Tyr	Phe	Asn	Tyr	Ile	Ala	Arg	Ser	Pro	Pro	Glu
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Glu	Leu	Ala	Thr	Val	Arg	Gly	Leu	Ile	Val	Pro	Ile	Ile	Lys	Thr	Thr
			100					105					110		
Pro	Val	Thr	Leu	Pro	Phe	Asn	Leu	Gly	Gln	Thr	Val	Ala	Asp	Asn	Cys
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Cys Gly Ser Arg Gly Glu His Pro Gly Gly Glu Tyr Ala Gly Leu Tyr				
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Cys Thr Arg His Asp Thr Pro Ala His Gln Ala Leu Met Asn Asp Ala				
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tcc Ser	gta Val	tcg Ser 630	gga Gly	ctt Leu	caa Gln	cca Pro	gaa Glu 635	ccc Pro	aga Arg	acg Thr	gaa Glu	gat Asp 640	gtt Val	ggc Gly	gaa Glu	16000
gag Glu	cta Leu 645	aca Thr	caa Gln	gac Asp	gac Asp	tac Tyr 650	gta Val	tgc Cys	gag Glu	gac Asp	ggg Gly 655	cag Gln	gat Asp	cta Leu	atg Met	16048
ggc Gly 660	tcg Ser	cct Pro	gta Val	atc Ile	ccg Pro 665	ctg Leu	gcc Ala	gag Glu	gtc Val	ttc Phe 670	cac His	acc Thr	cga Arg	ttc Phe	tcg Ser 675	16096
gag Glu	gcc Ala	ggc Gly	gcg Ala	cga Arg 680	gaa Glu	cca Pro	aca Thr	gga Gly	gcc Ala 685	gat Asp	cgc Arg	tcc Ser	ctt Leu	gag Glu 690	aca Thr	16144
gtc Val	tct Ser	ctc Leu	gga Gly 695	acg Thr	aag Lys	ctt Leu	gct Ala	agg Arg 700	tct Ser	cca Pro	aaa Lys	cca Pro	ccg Pro 705	atg Met	aac Asn	16192
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tcc Ser	cct Pro 725	gta Val	tcc Ser	ccc Pro	gcg Ala	tct Ser 730	cct Pro	gtt Val	gga Gly	gac Asp	gcc Ala 735	gcc Ala	ggg Gly	aac Asn	gat Asp	16288
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tca Ser	cca Pro	ggg Gly	ttg Leu	ccg Pro 760	tcg Ser	gtg Val	gtc Val	cat His	cga Arg 765	gac Asp	aga Arg	caa Gln	act Thr	cag Gln 770	tcc Ser	16384
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tcg Ser	ggg Gly	gac Asp 790	gga Gly	gta Val	gtt Val	ctc Leu	cag Gln 795	aaa Lys	act Thr	caa Gln	cgg Arg	ccc Pro 800	gct Ala	cag Gln	gga Gly	16480
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cgg Arg 820	aaa Lys	ccc Pro	ggg Gly	gga Gly	cct Pro 825	gta Val	ccc Pro	ggc Gly	ccg Pro	gtt Val 830	gag Glu	caa Gln	ttg Leu	tac Tyr	cac His 835	16576
gtc Val	ctt Leu	tcg Ser	gac Asp	agc Ser 840	gtt Val	ccc Pro	gct Ala	aag Lys	ggg Gly 845	gca Ala	aag Lys	gcg Ala	gac Asp	ctg Leu 850	ccg Pro	16624
ttt Phe	gag Glu	acc Thr	gat Asp 855	gat Asp	acc Thr	cgc Arg	cca Pro	agg Arg 860	aaa Lys	cat His	gat Asp	gcc Ala	cgg Arg 865	ggg Gly	ata Ile	16672

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ccc cgg cgc gtt tcg gtg gga agt gaa act aca ggc agc agg tcc gga Pro Arg Arg Val Ser Val Gly Ser Glu Thr Thr Gly Ser Arg Ser Gly 935 940 945	16912
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ccc gtg ccg ctt tac gtg ccg gag ttg gga gat ccg gct aga cag Pro Val Pro Leu Tyr Val Pro Glu Leu Gly Asp Pro Ala Arg Gln 1075 1080 1085	17326
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gaa gcc atg gcc acg ggg gag gcc ctc tgg gct ctc ccc cac gcg Glu Ala Met Ala Thr Gly Glu Ala Leu Trp Ala Leu Pro His Ala 1150	1155		17551
gcc gcg gcc gtg gct atg agc cgt cga tac gac ccg gcc caa aaa Ala Ala Ala Val Ala Met Ser Arg Arg Tyr Asp Arg Ala Gln Lys 1165	1170		17596
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gcc ccg gtt gca gac gat cat gtg gtt tcc aag gcc aag agg ccg Ala Arg Val Ala Asp Asp His Val Val Ser Lys Ala Lys Arg Arg 1270	1275		17911
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ccc gcc gta ata acg atg cca ctt gac gga ccg gcc cca aac ggg Pro Ala Val Ile Thr Met Pro Leu Asp Gly Pro Ala Pro Asn Gly 1300	1305		18001
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tcg gac cag gct cgc aag gcg tac tgt acc ccc gaa acc atc gcc Ser Asp Gln Ala Arg Lys Ala Tyr Cys Thr Pro Glu Thr Ile Ala 1330	1335		18091
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Leu	Ser	Phe	Asp	Pro	Gly	Ala	Leu	Ala	Glu	Ile	Ala	Ala	Arg	Arg	1370	
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Ala	Leu	Arg	Arg	Arg	Cys	Ala	Trp	Met	Arg	Gln	Ile	Pro	Asp	Pro	1400	
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Glu	Asp	Val	Arg	Leu	Leu	Ile	Ile	Tyr	Asp	Pro	Leu	Pro	Gly	Glu	1415	
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Leu	Val	Leu	Asp	Ala	Val	Ala	Leu	Glu	Arg	Trp	Pro	Arg	Asp	Gly	1520	
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Pro	Ala	Leu	Ser	Gln	Tyr	His	Val	Tyr	Val	Arg	Ala	Pro	Ala	Arg	1535	
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Pro	Asp	Ala	Gln	Ala	Val	Val	Arg	Trp	Pro	Asp	Ser	Ala	Val	Thr	1550	
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gaa	gga	ctc	gcc	cgg	gcc	gtg	ttt	gca	tcg	tcg	cgc	acc	ttt	ggg	18766	
Glu	Gly	Leu	Ala	Arg	Ala	Val	Phe	Ala	Ser	Ser	Arg	Thr	Phe	Gly	1565	
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cca	gcg	agt	ttt	gct	cgt	atc	gag	act	gcg	ttt	gcc	aac	ctg	tac	18811	
Pro	Ala	Ser	Phe	Ala	Arg	Ile	Glu	Thr	Ala	Phe	Ala	Asn	Leu	Tyr	1580	
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Pro Gly Glu Gln Pro	Leu Cys Leu Cys Arg	Gly Gly Asn Val Ala	
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tac acc gtg tgt acc	cgc gcg ggc ccc aag	acc cgc gtc ccc ctg	18901
Tyr Thr Val Cys Thr	Arg Ala Gly Pro Lys	Thr Arg Val Pro Leu	
1600	1605	1610	
tcg ccc cgt gaa tac	cgg cag tac gtg ctg	ccg ggt ttt gac ggt	18946
Ser Pro Arg Glu Tyr	Arg Gln Tyr Val Leu	Pro Gly Phe Asp Gly	
1615	1620	1625	
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Cys Lys Asp Leu Ala	Arg Gln Ser Arg Gly	Leu Gly Leu Gly Ala	
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Ala Asp Phe Val Asp	Glu Ala Ala His Ser	His Arg Ala Ala Asn	
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Arg Trp Gly Leu Gly	Ala Ala Leu Arg Pro	Val Phe Leu Pro Glu	
1660	1665	1670	
gga cgg aga ccg ggg	gcc gcc ggg ccg gag	gcc ggc gac gta ccc	19126
Gly Arg Arg Pro Gly	Ala Ala Gly Pro Glu	Ala Gly Asp Val Pro	
1675	1680	1685	
acc tgg gcg agg gtg	ttt tgc cgc cac gcc	ctg ctg gaa ccc gac	19171
Thr Trp Ala Arg Val	Phe Cys Arg His Ala	Leu Leu Glu Pro Asp	
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Pro Ala Ala Glu Pro	Leu Val Leu Pro Pro	Val Ala Gly Arg Ser	
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Val Ala Leu Tyr Ala	Ser Ala Asp Glu Ala	Arg Asn Ala Leu Pro	
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ccg att ccc aga gta	atg tgg ccg ccc ggt	ttt ggg gcc gcg gag	19306
Pro Ile Pro Arg Val	Met Trp Pro Pro Gly	Phe Gly Ala Ala Glu	
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Thr Val Leu Glu Gly	Ser Asp Gly Thr Arg	Phe Val Phe Gly His	
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His Gly Gly Ser Glu	Arg Pro Ser Glu Thr	Gln Ala Gly Arg Gln	
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cgg cgc acc gca gac	gac aga gaa cac gct	ttg gag ctg gac gat	19441
Arg Arg Thr Ala Asp	Asp Arg Glu His Ala	Leu Glu Leu Asp Asp	
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tgg gag gtg ggg tgt	gaa gac gcg tgg gac	agc gag gag ggg ggc	19486
Trp Glu Val Gly Cys	Glu Asp Ala Trp Asp	Ser Glu Glu Gly Gly	
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ggg gac gac ggg gac	gca ccg ggg tca tcc	ttt ggg gtg agc atc	19531
Gly Asp Asp Gly Asp	Ala Pro Gly Ser Ser	Phe Gly Val Ser Ile	
1810	1815	1820	

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ccc Pro 2015	aca Thr	gca Ala	gag Glu	tca Ser	cca Pro 2020	agt Ser	gac Asp	tct Ser	caa Gln	cag Gln 2025	gat Asp	tct Ser	ata Ile	caa Gln	20876
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tgt Cys 2120	tac Tyr	atg Met	caa Gln	cct Pro	tta Leu 2125	ctc Leu	gga Gly	tgg Trp	ctt Leu	gat Asp 2130	gat Asp	caa Gln	ctt Leu	gcg Ala	21191
gaa Glu 2135	ctg Leu	tat Tyr	caa Gln	ccc Pro	gaa Glu 2140	att Ile	gta Val	gag Glu	cct Pro	aca Thr 2145	aaa Lys	atg Met	ttg Leu	ata Ile	21236
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Leu Ser Asp Ser	Lys Asp Ile Tyr	Val Leu Ala His Pro Val Thr				2360 2365 2370
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Lys Lys Thr Arg	Lys Arg Pro Arg	Gly Leu Pro Leu Gly Val Lys				2375 2380 2385
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Leu Asp Pro Pro	Thr Phe Lys Leu	Asn Asn Met Ser His His Tyr				2390 2395 2400
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Asp Thr Glu Thr	Phe Thr Pro Val	Ser Ser Gln Leu Asp Ser Val				2405 2410 2415
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Gln	Arg	Val	Leu	Gln	Arg	Leu	Cys	Glu	Asn	Arg	Thr	Gly	Leu	Val	
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Phe	Met	Leu	Trp	Gly	Ala	His	Ala	Gln	Lys	Thr	Thr	Gln	Pro	Asn	
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Ser	Arg	Cys	His	Leu	Val	Leu	Thr	His	Ala	His	Pro	Ser	Pro	Leu	
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tcc	cgt	gtt	cca	ttt	cgg	aat	tgt	cga	cat	ttc	gtt	caa	gcc	aat	24532
Ser	Arg	Val	Pro	Phe	Arg	Asn	Cys	Arg	His	Phe	Val	Gln	Ala	Asn	
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Glu	Tyr	Phe	Thr	Arg	Lys	Gly	Glu	Pro	Glu	Ile	Asp	Trp	Ser	Val	
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Ile															

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Tyr Thr Gly Lys Trp Ser Asp Cys Arg	Lys His Gly Lys Ser Val	
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Arg Ala Lys Cys Phe Arg Leu Gly Gln Arg Cys His Thr Arg Phe	3595 3600 3605
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Tyr Asp Val Leu Lys Lys Asp Ile Asp Asn Val Arg Arg Gly Phe	3610 3615 3620
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Ala Asp Ala Phe Asn Pro Arg Leu Ala Lys Leu Leu Ser Pro Leu	3625 3630 3635
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Ser His Val Asp Val Gln Arg Ala Val Arg Ile Ser Met Ser Phe	3640 3645 3650
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Glu Val Asn Leu Gly Arg Arg Arg Pro Asp Cys Val Cys Ile Ile	3655 3660 3665
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Gln Thr Glu Ser Ser Gly Ala Gly Lys Thr Val Cys Phe Ile Val	3670 3675 3680
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Glu Leu Lys Ser Cys Arg Phe Ser Ala Asn Ile His Thr Pro Thr	3685 3690 3695
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Lys Tyr His Gln Phe Cys Glu Gly Met Arg Gln Leu Arg Asp Thr	3700 3705 3710
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Met Ala Leu Ile Lys Glu Thr Thr Pro Thr Gly Ser Asp Glu Ile	3715 3720 3725

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aaa att cac gta tgt tct ctt gcg aaa aag cgt gcg aaa tca tgc Lys Ile His Val 3790 Cys Ser Leu Ala Lys 3795 Lys Arg Ala Lys Ser 3800 Cys	60779
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aca Thr 3965	gaa Glu	ata Ile	ata Ile	cgc Arg	aat Asn 3970	gag Glu	tct Ser	ata Ile	cac His	ccc Pro 3975	gag Glu	gta Val	cag Gln	att Ile	61382
gcc Ala 3980	aaa Lys	aat Asn	gat Asp	gca Ala	ccg Pro 3985	ttg Leu	cag Gln	tac Tyr	gat Asp	aca Thr 3990	aac Asn	ttt Phe	caa Gln	gtg Val	61427
gat Asp 3995	ttt Phe	atc Ile	acc Thr	ctg Leu	gtg Val 4000	tac Tyr	ttg Leu	gga Gly	agg Arg	gca Ala 4005	agg Arg	ggc Gly	aat Asn	aac Asn	61472
tct Ser 4010	cca Pro	ggg Gly	att Ile	gtt Val	ttc Phe 4015	ggg Gly	cca Pro	tgg Trp	tat Tyr	cgt Arg 4020	act Thr	ctg Leu	cag Gln	gaa Glu	61517
cgg Arg 4025	ctt Leu	gtg Val	tta Leu	gat Asp	agg Arg 4030	ccc Pro	gta Val	gct Ala	gca Ala	cgc Arg 4035	gga Gly	gtt Val	gat Asp	tgt Cys	61562
aaa Lys 4040	gac Asp	ggg Gly	cgc Arg	att Ile	tcc Ser 4045	cgt Arg	acg Thr	ttt Phe	atg Met	aac Asn 4050	aca Thr	acg Thr	gta Val	aca Thr	61607
tgt Cys 4055	cta Leu	cag Gln	tcc Ser	gcc Ala	ggg Gly 4060	aga Arg	atg Met	tat Tyr	gtt Val	gga Gly 4065	gat Asp	aga Arg	gcg Ala	tac Tyr	61652
tcc Ser 4070	gcg Ala	ttc Phe	gag Glu	tgt Cys	gcg Ala 4075	gta Val	tta Leu	tgt Cys	tta Leu	tat Tyr 4080	tta Leu	atg Met	tat Tyr	agg Arg	61697
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cgt Arg 4130	cta Leu	cca Pro	cgc Arg	gac Asp	cag Gln 4135	ttt Phe	cat His	gct Ala	cgt Arg	ggg Gly 4140	ggg Gly	cgg Arg	tat Tyr	gat Asp	61877
caa Gln 4145	ggc Gly	gcc Ala	tta Leu	acg Thr	tca Ser 4150	cat His	tct Ser	gtt Val	atg Met	gat Asp 4155	gcg Ala	ctt Leu	ata Ile	cgg Arg	61922
ttg Leu 4160	cag Gln	gtc Val	cta Leu	ccg Pro	cct Pro 4165	gca Ala	cct Pro	gga Gly	cag Gln	ttt Phe 4170	aat Asn	cct Pro	ggg Gly	gtt Val	61967
aat Asn	gac Asp	att Ile	att Ile	gat Asp	cgc Arg	aat Asn	cat His	acc Thr	gca Ala	tat Tyr	gtg Val	gac Asp	aag Lys	att Ile	62012

4175											4180											4185											
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gaa Glu 4450	tta Leu	aat Asn	att Ile	acc Thr	cca Pro 4455	gag Glu	att Ile	gtg Val	cgg Arg	tcc Ser 4460	gct Ala	ttg Leu	ccg Pro	cct Pro					62872
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gac Asp 4555	ggg Gly	aat Asn	ttt Phe	ttt Phe	acc Thr 4560	cat His	gtt Val	gcg Ala	tta Leu	tgt Cys 4565	gtt Val	gtt Val	gga Gly	aga Arg					63187
cgc Arg 4570	gtt Val	gga Gly	aca Thr	gtg Val	gtc Val 4575	aat Asn	tat Tyr	gac Asp	tgt Cys	acc Thr 4580	ccg Pro	gaa Glu	tct Ser	tca Ser					63232
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gtt Val 4615	agc Ser	gaa Glu	gat Asp	aaa Lys	ctc Leu 4620	gcc Ala	aag Lys	gtg Val	tta Leu	tta Leu 4625	tcc Ser	aca Thr	gcc Ala	gtg Val					63367
aac Asn 4630	aat Asn	atg Met	ctt Leu	tta Leu	aga Arg 4635	gat Asp	aga Arg	tgg Trp	gac Asp	gtg Val 4640	gtt Val	gca Ala	aaa Lys	cgt Arg					63412

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tct Ser 4675	aaa Lys	tta Leu	ccc Pro	aac Asn	gcg Ala 4680	ggt Gly	gtt Val	ata Ile	aac Asn	gcc Ala 4685	aca Thr	ttc Phe	cac His	ccc Pro	63547
ggc Gly 4690	ggg Gly	ccc Pro	ata Ile	tac Tyr	gat Asp 4695	ctc Leu	gcg Ala	ttg Leu	ggt Gly	gtt Val 4700	ggg Gly	gaa Glu	tca Ser	aat Asn	63592
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gtc Val 4855	cgt Arg	cgt Arg	cca Pro	gga Gly	aaa Lys 4860	cgg Arg	gat Asp	ttc Phe	aag Lys	agc Ser 4865	atg Met	gat Asp	caa Gln	agg Arg	64087
gaa Glu 4870	ttg Leu	gat Asp	tct Ser	ttt Phe	tat Tyr 4875	agt Ser	ggg Gly	gag Glu	tct Ser	caa Gln 4880	atg Met	gac Asp	gga Gly	gag Glu	64132

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caa Gln 4945	atg Met	cct Pro	ttg Leu	tcg Ser	cac His 4950	cat His	aca Thr	aat Asn	ata Ile	cca Pro 4955	gag Glu	ggg Gly	aca Thr	cgg Arg	64357
gat Asp 4960	cct Pro	cga Arg	ata Ile	tcg Ser	att Ile 4965	tta Leu	tta Leu	aaa Lys	cag Gln	ctt Leu 4970	caa Gln	agc Ser	gtt Val	tcg Ser	64402
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aaa Lys	ttg Leu	gat Asp	att Ile 6020	aat Asn	aag Lys	ttt Phe	gtt Val	atg Met 6025	acg Thr	gcc Ala	gag Glu	ctt Leu	agt Ser 6030	cgt Arg	77260

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Glu Arg Ile Pro Tyr Val Ile Val Ala Pro Thr Asp Glu Val Glu	
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gct cta ccc gta gct aac gtg aca tat gcc ctg ttc att gta att Ala Leu Pro Val Ala Asn Val Thr Tyr Ala Leu Phe Ile Val Ile	6620	6625	6630
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6635 6640 6645

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Ala	Pro	Gly	Phe	Phe	Gly	Asn	Trp	Ser	Arg	Asp	Leu	Thr	Ile	Gly	
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Lys	Arg	Thr	Glu	Thr	Ala	Ser	Ile	Gln	Val	Thr	Pro	Arg	Ser	Ile	
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Ser	Thr	Thr	Gln	Leu	Ile	Gln	Gln	Val	Ser	Leu	Thr	Asp	Phe	Phe	
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Arg	Pro	Asp 7015	Ile	Glu	His	Ala	Gly 7020	Ser	Ile	Val	Leu	Ile 7025	Leu	Arg	
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His	Pro	Ser 7030	Asp	Met	Ile	Gly	Glu 7035	Ala	Asn	Thr	Leu	Thr 7040	Gln	Ala	
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Asn	Ala	Cys 7060	Thr	Ala	Pro	Trp	Thr 7065	Val	Gly	Glu	Gly	Gly 7070	Gly	Leu	
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Glu	Glu	Tyr 7090	Thr	Asp	Lys	Gln	Ala 7095	Ala	Asp	Ala	Asn	Arg 7100	Thr	Ala	
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Pro	His	Arg 7135	Phe	Ile	Ser	Phe	Phe 7140	Gly	Ser	Leu	Leu	Glu 7145	Tyr	Thr	
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Gln	Glu	Ala 7165	Ala	Arg	Thr	Asp	Lys 7170	Thr	Ser	Thr	Arg	Arg 7175	Val	Thr	
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Ala	Asn	Ile 7180	Pro	Ala	Cys	Val	Phe 7185	Trp	Asp	Val	Asp	Lys 7190	Asp	Leu	
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Tyr	Thr	Gln 7210	Arg	Arg	Gln	Arg	Glu 7215	Gly	Val	Arg	Leu	His 7220	Leu	Ala	
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Leu	Ser	Gln 7225	Leu	Asn	Glu	Gln	Cys 7230	Phe	Gly	Arg	Gly	Ile 7235	Gly	Phe	
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Leu	Leu	Gly 7240	Arg	Ile	Arg	Ala	Glu 7245	Asn	Ala	Ala	Trp	Gly 7250	Thr	Glu	

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Gly Val Ala	Asn Thr His	Gln Pro	Tyr Asn Thr	Arg Ala	Leu Pro	
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Leu Val Gln	Leu Ser Asn	Asp Pro	Thr Ser Pro	Arg Cys	Ser Ile	
7270		7275		7280		
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Gly Glu Ile	Thr Gly Val	Asn Trp	Asn Leu Ala	Arg Gln	Arg Leu	
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Tyr Gln Trp	Thr Gly Asp	Phe Arg	Gly Leu Pro	Thr Gln	Leu Ser	
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Cys Met Tyr	Ala Ala Tyr	Thr Leu	Ile Gly Thr	Ile Pro	Ser Glu	
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Ser Val Arg	Tyr Thr Arg	Arg Met	Glu Arg Phe	Gly Gly	Tyr Asn	
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Val Pro Thr	Ile Trp Leu	Glu Gly	Val Val Trp	Gly Gly	Thr Asn	
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			Met Glu	Phe Lys Arg	Ile Phe Asn	
			7365		7370	
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Thr Val His	Asp Ile Ile	Asn Arg	Leu Cys Gln	His Gly	Tyr Lys	
7375		7380		7385		
gaa tac atc	att ccg ccc	gaa tca	acc aca ccg	gtg gaa	tta atg	96153
Glu Tyr Ile	Ile Pro Pro	Glu Ser	Thr Thr Pro	Val Glu	Leu Met	
7390		7395		7400		
gag tat att	agc act atc	gtc tca	aaa ctt aag	gcg gtg	acg cga	96198
Glu Tyr Ile	Ser Thr Ile	Val Ser	Lys Leu Lys	Ala Val	Thr Arg	
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Gln Asp Glu	Arg Val Tyr	Arg Cys	Cys Gly Glu	Leu Ile	His Cys	
7420		7425		7430		
cgt att aac	cta cga tcc	gtt tcc	atg gaa acg	tgg ttg	act tcc	96288
Arg Ile Asn	Leu Arg Ser	Val Ser	Met Glu Thr	Trp Leu	Thr Ser	
7435		7440		7445		
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Pro Ile Leu	Cys Leu Thr	Pro Arg	Val Arg Gln	Ala Ile	Glu Gly	
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Lys	Tyr	Glu	Asp	Phe	Tyr	Leu	Thr	Lys	Leu	Glu	Glu	Gly	Lys	Leu	
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Glu	Ser	Leu	Cys	Gln	Phe	Phe	Leu	Arg	Leu	Ala	Ala	Thr	Val	Thr	
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Thr	Glu	Ile	Val	Asn	Leu	Pro	Lys	Ile	Ala	Thr	Leu	Ile	Pro	Gly	
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Ile	Asn	Asp	Gly	Tyr	Thr	Trp	Thr	Asp	Val	Cys	Arg	Val	Phe	Phe	
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Thr	Ala	Leu	Ala	Cys	Gln	Lys	Ile	Val	Pro	Ala	Thr	Pro	Val	Met	
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Met	Phe	Leu	Gly	Arg	Glu	Thr	Gly	Ala	Thr	Ala	Ser	Cys	Tyr	Leu	
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Met	Asp	Pro	Glu	Ser	Ile	Thr	Val	Gly	Arg	Ala	Val	Arg	Ala	Ile	
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Thr	Gly	Asp	Val	Gly	Thr	Val	Leu	Gln	Ser	Arg	Gly	Gly	Val	Gly	
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Lys	Gly	Leu	Leu	Ala	Val	Leu	Lys	Leu	Leu	Asp	Cys	Met	Val	Met	
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Ala	Ile	Asn	Ser	Asp	Cys	Glu	Arg	Pro	Thr	Gly	Val	Cys	Val	Tyr	
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Gly	Met	Leu	Val	Arg	Asp	Glu	Ile	Phe	Arg	Cys	Asp	Asn	Ile	Phe	
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Cys	Cys	Leu	Trp	Thr	Pro	Asp	Leu	Phe	Phe	Glu	Arg	Tyr	Leu	Ser	

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Tyr Leu Lys Gly Ala Ser Asn Val Gln Trp Thr Leu Phe Asp Asn	
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Arg Ala Asp Ile Leu Arg Thr Leu His Gly Glu Ala Phe Thr Ser	
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acc tat tta cgt tta gag aga gaa gga tta ggc gtt tct tct gtt	97188
Thr Tyr Leu Arg Leu Glu Arg Glu Gly Leu Gly Val Ser Ser Val	
7735 7740 7745	
ccc att caa gat atc gca ttc aca atc ata cgc agt gct gct gta	97233
Pro Ile Gln Asp Ile Ala Phe Thr Ile Ile Arg Ser Ala Ala Val	
7750 7755 7760	
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Thr Gly Ser Pro Phe Leu Met Phe Lys Asp Ala Cys Asn Arg Asn	
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Tyr His Met Asn Thr Gln Gly Asn Ala Ile Thr Gly Ser Asn Leu	
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Cys Thr Glu Ile Val Gln Lys Ala Asp Ala His Gln His Gly Val	
7795 7800 7805	
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Cys Asn Leu Ala Ser Ile Asn Leu Thr Thr Cys Leu Ser Lys Gly	
7810 7815 7820	
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Pro Val Ser Phe Asn Leu Asn Asp Leu Gln Leu Thr Ala Arg Thr	
7825 7830 7835	
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Thr Val Ile Phe Leu Asn Gly Val Leu Ala Ala Gly Asn Phe Pro	
7840 7845 7850	
tgt aaa aaa tca tgt aaa ggt gta aaa aac aac cga tca ctt ggc	97548
Cys Lys Lys Ser Cys Lys Gly Val Lys Asn Asn Arg Ser Leu Gly	
7855 7860 7865	
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Ile Gly Ile Gln Gly Leu His Thr Thr Cys Leu Arg Leu Gly Phe	
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Asp Leu Thr Ser Gln Pro Ala Arg Arg Leu Asn Val Gln Ile Ala	
7885 7890 7895	
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Glu Leu Met Leu Tyr Glu Thr Met Lys Thr Ser Met Glu Met Cys	
7900 7905 7910	
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Lys Ile Gly Gly Leu Ala Pro Phe Lys Gly Phe Thr Glu Ser Lys	
7915 7920 7925	
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Cys	Glu	Glu	Lys	Arg	Leu	Glu	Val	Ile	Asn	Ile	Leu	Glu	Lys	Asn	
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Gln	Trp	Ser	Val	Ile	Arg	Ser	Phe	Gly	Cys	Leu	Ser	Asn	Ser	His	
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Pro	Leu	Leu	Lys	Tyr	Lys	Thr	Ala	Phe	Glu	Tyr	Glu	Gln	Glu	Asp	
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Pro	Ala	Ser	Lys	Ile	Met	Asn	Leu	Leu	Ile	Arg	Ala	Tyr	Lys	Ala	
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Gly	Leu	Lys	Thr	Gly	Met	Tyr	Tyr	Cys	Lys	Ile	Arg	Lys	Ala	Thr	
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Asn	Ser	Gly	Leu	Phe	Ala	Gly	Gly	Glu	Leu	Thr	Cys	Thr	Ser	Cys	
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Ala	Leu					Met	Asp	Gln	Lys	Asp	Cys				
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Ser	His	Phe	Phe	Tyr	Arg	Pro	Glu	Cys	Pro	Asp	Ile	Asn	Asn	Leu	
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att gaa gat gat tat caa tac ttg gac tgt tta acg gaa gat gaa Ile Glu Asp Asp Tyr Gln Tyr Leu Asp Cys Leu Thr Glu Asp Glu 8180 8185 8190	98544
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gtt gtc cac gcg cgt gtc tat agt caa att caa cta atg ttg ttc Val Val His Ala Arg Val Tyr Ser Gln Ile Gln Leu Met Leu Phe 8240 8245 8250	98724
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Thr Pro Leu Met Trp Ala Ile Ser His Ile Ile Lys Leu Asn His	
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Pro Ala Val Ala Pro Thr Ser Ala Ala Ser Arg Lys Pro Asp Pro	

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Ala Tyr Ile Phe Gly Arg Ser Ser Lys Ser Arg Ser Gly Ile Ile
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Val Cys Pro Thr Ala Trp Pro Ala Gly Glu His Cys Lys Phe Tyr
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Val Tyr Asn Leu Thr Gly Asp Asp Ile Arg Ile Lys Thr Gly Asp
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Arg Leu Ala Gln Val Leu Leu Ile Asp His Asn Thr Gln Ile His
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Leu Lys His Asn Val Leu Ser Asn Ile Ala Phe Pro Tyr Ala Ile
10155 10160 10165
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Arg Gly Lys Cys Gly Ile Pro Gly Val Gln Trp Tyr Phe Thr Lys
10170 10175 10180
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Thr Leu Asp Leu Ile Ala Thr Pro Ser Glu Arg Gly Thr Arg Gly
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Phe Gly Ser Thr Asp Lys Glu Thr Asn Asp Val Asp Phe Leu Leu
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Lys His
10215
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Tyr	Thr	Trp	Thr	Pro	Asp	Leu	Asp	Asp	Val	Phe	Val	
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Arg	Glu	Glu	Ile	Thr	Gln	Val	Ile	Pro	Thr	Lys	Arg	
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Val	Thr	Glu	Asn	Asp	Glu	Glu	Asn	Gln	Ile	Met	His	
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Ser	Arg	Asp	Val	Asn	Val	Ile	Phe	Tyr	Leu	Ile	Gly	
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Phe	Lys	Thr	Gln	Thr	Asp	Phe	Lys	Ala	Leu	Tyr	Lys	
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Tyr	Gly	Ala	Pro	Leu	Asn	Pro	His	Ile	Ile	Ser	Asp	
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Ile	Ser	Glu	Thr	Phe	Asp	Ile	His	Ser	Glu	Val	Ile	
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Met	Val	Thr	Thr	His	His	Leu	Asn	Arg	Lys	Gly	Leu	
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Gly	Leu	Cys	Ile	Thr	Glu	Ala	Thr	Leu	Cys	Lys	Leu	
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Ser	Val	Gly	Arg	Gln	Glu	Leu	Thr	Ser	Leu	Tyr	Ala	
				10410					10415		His	10420
cgt	caa	gta	ttg	gct	gca	tat	cga	cga	ctc	tac	tgg	116967
Arg	Gln	Val	Leu	Ala	Ala	Tyr	Arg	Arg	Leu	Tyr	Trp	
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tgc	tcg	ccg	ttt	tgg	tat	att	gtt	cga	ttt	gga	ccc	117012
Cys	Ser	Pro	Phe	Trp	Tyr	Ile	Val	Arg	Phe	Gly	Pro	
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Thr	Leu	Val	Leu	Ala	Thr	Arg	Tyr	Tyr	Leu	Leu	Gln	Thr	Asp	Thr	10465
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Ser	Tyr	Asn	Thr	Leu	Glu	Thr	Pro	Leu	Tyr	Asp	Leu	Gln	Ala	Ile	10480
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Lys	Asp	Leu	Phe	Leu	Thr	Tyr	Gln	Val	Pro	Ala	Leu	Pro	Asn	Cys	10495
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Ser	Gly	Tyr	Asn	Ile	Ser	Asp	Leu	Leu	Ser	Phe	Asp	Lys	Leu	Ser	10510
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Met	Phe	Cys	Cys	Ser	Ser	Thr	Tyr	Thr	Arg	Gly	Leu	Thr	Ala	Lys	10525
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Asn	Ala	Leu	Ser	Tyr	Ile	Leu	Gln	Arg	Ile	His	Thr	Asp	Thr	Thr	10540
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Glu	Ile	His	Ala	Val	Ser	Glu	Tyr	Ile	Thr	Asn	Asp	Arg	Lys	Gly	10555
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Leu	Lys	Val	Pro	Asp	Arg	Glu	Phe	Val	Asp	Tyr	Ile	Tyr	Leu	Ala	10570
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His	Phe	Glu	Cys	Phe	Asn	Arg	Lys	Gln	Ile	Ala	Asp	His	Leu	Gln	10585
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Ser	Ser	Asn	Leu	Gly	Lys	Arg	Ala	Thr	Ala	Asn	Phe	Phe	Asn	His	10615
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cgt	cgt	gtg	gaa	aac	att	gaa	aaa	caa	ttt	agt	cca	tat	gga	tgg	117732

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Arg	Arg	Val	Glu	Asn	Ile	Glu	Lys	Gln	Phe	Ser	Pro	Tyr	Gly	Trp	
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Asp	Thr	Ser	Pro	Gly	Ile	Thr	Lys	Leu	Leu	Leu	Phe	Phe	Ser	Ala	10750
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gcc	act	ggg	ata	gcc	aca	cat	gat	gta	tcc	atc	ctg	agt	tat	aaa	117957
Ala	Thr	Gly	Ile	Ala	Thr	His	Asp	Val	Ser	Ile	Leu	Ser	Tyr	Lys	10765
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act	cca	tta	gaa	gcc	ctc	atc	ggc	cat	tct	gag	gta	act	gga	cca	118002
Thr	Pro	Leu	Glu	Ala	Leu	Ile	Gly	His	Ser	Glu	Val	Thr	Gly	Pro	10780
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Gly	Met	Arg	Ala	Phe	Arg	His	Gly	Ile	Leu	Thr	Ala	Met	Gln	Leu	10915
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Phe	Tyr	Lys	Thr	Ala	Cys	Pro	Glu	Pro	Thr	Val	Glu	Val	Leu	Asp	10935 10940 10945
gat	gat	aat	tta	ttg	gat	ata	acc	agc	cat	tct	gac	atc	gat	ttt	118542
Asp	Asp	Asn	Leu	Leu	Asp	Ile	Thr	Ser	His	Ser	Asp	Ile	Asp	Phe	10950 10955 10960
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Phe	Val	Glu	Tyr	Ile	Gly	Pro	Tyr	Leu	Arg	Asp	Phe	Ser	Phe	Ile	11055 11060 11065
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Phe	Ser	Lys	Val	Thr	Thr	Thr	Gly	Thr	Ala	Val	Gly	Gln	Leu	Leu	11085 11090 11095
cca	ttt	tat	gtt	gta	cct	gag	cag	tgt	att	gat	ata	tta	gcg	ttt	118992
Pro	Phe	Tyr	Val	Val	Pro	Glu	Gln	Cys	Ile	Asp	Ile	Leu	Ala	Phe	11100 11105 11110
gtg	aca	tca	cat	aga	aac	ccg	gca	aac	ttt	cat	ttt	cat	tca	aga	119037
Val	Thr	Ser	His	Arg	Asn	Pro	Ala	Asn	Phe	His	Phe	His	Ser	Arg	11115 11120 11125
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Pro	Gln	Ser	Asn	Val	Pro	Val	Gln	Phe	Ile	Leu	His	Asn	Leu	Gly	11130 11135 11140
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Gly	Glu	Tyr	Ala	Glu	Phe	Phe	Glu	Arg	Lys	Val	Ala	Arg	Asn	Lys	11145 11150 11155

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caa ata ttt agc tcc	ccg caa ata tct tta	aca aag gct cta aaa	119172
Gln Ile Phe Ser Ser	Pro Gln Ile Ser Leu	Thr Lys Ala Leu Lys	
11160	11165	11170	
gag cgc ggg gta act	tgt ctg gac gca ttt	aca ctg gag gcc ttt	119217
Glu Arg Gly Val Thr	Cys Leu Asp Ala Phe	Thr Leu Glu Ala Phe	
11175	11180	11185	
gtc gac agc aca ata	tta gaa tct att gtg	gag cat att gct gtt	119262
Val Asp Ser Thr Ile	Leu Glu Ser Ile Val	Glu His Ile Ala Val	
11190	11195	11200	
cat ttc ccc ggg cgt	gat cgc gaa tat acc	tta aca tca tca aag	119307
His Phe Pro Gly Arg	Asp Arg Glu Tyr Thr	Leu Thr Ser Ser Lys	
11205	11210	11215	
tgt atc gcc atc aaa	agg gac tgg gtg tta	ttt cag ctc ata tgc	119352
Cys Ile Ala Ile Lys	Arg Asp Trp Val Leu	Phe Gln Leu Ile Cys	
11220	11225	11230	
gga aca aaa ggg ttc	act tgt ctt cga tat	ccc cat cgc gga gga	119397
Gly Thr Lys Gly Phe	Thr Cys Leu Arg Tyr	Pro His Arg Gly Gly	
11235	11240	11245	
aga acg gct ccc cgg	aca ttt gtg tct ctg	cga gtg gat cat cac	119442
Arg Thr Ala Pro Arg	Thr Phe Val Ser Leu	Arg Val Asp His His	
11250	11255	11260	
aac cgt ttg tgt att	tcg ctt gca caa caa	tgt ttt gct aca aag	119487
Asn Arg Leu Cys Ile	Ser Leu Ala Gln Gln	Cys Phe Ala Thr Lys	
11265	11270	11275	
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Cys Asp Ser Asn Arg	Met His Thr Ile Phe	Thr Leu Glu Val Pro	
11280	11285	11290	
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Asn Tyr Pro Asn Leu	Thr Ser Ser		
11295			
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	Met Gln	Ala Leu Gly Ile	
	11300		
aag aca gaa cat ttt	ata att atg tgt cta ctt	agc gga cat gct	119673
Lys Thr Glu His Phe	Ile Ile Met Cys Leu Leu	Ser Gly His Ala	
11305	11310	11315	
gtt ttt acc cta tgg	tat acc gct cgt gta aag	ttt gaa cat gag	119718
Val Phe Thr Leu Trp Tyr	Thr Ala Arg Val Lys	Phe Glu His Glu	
11320	11325	11330	
tgt gtg tat gca acc	acg gtg att aat ggt gga	ccg gtt gta tgg	119763
Cys Val Tyr Ala Thr Thr	Val Ile Asn Gly Gly	Pro Val Val Trp	
11335	11340	11345	
ggg tct tat aac aac	tct ctt ata tat gta acg	ttt gta aac cac	119808
Gly Ser Tyr Asn Asn Ser	Leu Ile Tyr Val Thr	Phe Val Asn His	
11350	11355	11360	
tca acg ttt ttg gat	ggc cta tct gga tac gat	tac agc tgc cgg	119853
Ser Thr Phe Leu Asp Gly	Leu Ser Gly Tyr Asp	Tyr Ser Cys Arg	

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Cys Thr Pro Gly Trp Glu Ile His Pro Ala Arg Leu Val Glu Asp Ile
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Asn Arg Val Phe Leu Cys Ile Ala Gln Ser Ser Gly Arg Val Thr Arg
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Asp Ser Arg Arg Leu Arg Arg Ile Cys Leu Asp Phe Tyr Leu Met Gly
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Arg Thr Arg Gln Arg Pro Thr Leu Ala Cys Trp Glu Glu Leu Leu Gln
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Glu Phe Arg Asp Ser Asp Ala Glu Ser Ser Asp Gly Glu Asp Phe Ile
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Ala Gln Gly Lys Ser Pro Lys Lys Lys Thr Leu Lys Val Lys Val Pro
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 690 695 700

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 Arg Arg Ile Pro Arg Gly Ala Leu His Thr Pro Val Pro Ser Asp Gln
 755 760 765
 Ala Arg Lys Ala Tyr Cys Thr Pro Glu Thr Ile Ala Arg Leu Val Asp
 770 775 780
 Asp Pro Leu Phe Pro Thr Ala Trp Arg Pro Ala Leu Ser Phe Asp Pro
 785 790 795 800
 Gly Ala Leu Ala Glu Ile Ala Ala Arg Arg Pro Gly Gly Gly Asp Arg
 805 810 815
 Arg Phe Gly Pro Pro Ser Gly Val Glu Ala Leu Arg Arg Arg Cys Ala
 820 825 830
 Trp Met Arg Gln Ile Pro Asp Pro Glu Asp Val Arg Leu Leu Ile Ile
 835 840 845
 Tyr Asp Pro Leu Pro Gly Glu Asp Ile Asn Gly Pro Leu Glu Ser Thr
 850 855 860
 Leu Ala Thr Asp Pro Gly Pro Ser Trp Ser Pro Ser Arg Gly Gly Leu
 865 870 875 880
 Ser Val Val Leu Ala Ala Leu Ser Asn Arg Leu Cys Leu Pro Ser Thr
 885 890 895
 His Ala Trp Ala Gly Asn Trp Thr Gly Pro Pro Asp Val Ser Ala Leu
 900 905 910
 Asn Ala Arg Gly Val Leu Leu Leu Ser Thr Arg Asp Leu Ala Phe Ala
 915 920 925
 Gly Ala Val Glu Tyr Leu Gly Ser Arg Leu Ala Ser Ala Arg Arg Arg
 930 935 940
 Leu Leu Val Leu Asp Ala Val Ala Leu Glu Arg Trp Pro Arg Asp Gly

945 950 955 960
 Pro Ala Leu Ser Gln Tyr His Val Tyr Val Arg Ala Pro Ala Arg Pro
 965 970 975
 Asp Ala Gln Ala Val Val Arg Trp Pro Asp Ser Ala Val Thr Glu Gly
 980 985 990
 Leu Ala Arg Ala Val Phe Ala Ser Ser Arg Thr Phe Gly Pro Ala Ser
 995 1000 1005
 Phe Ala Arg Ile Glu Thr Ala Phe Ala Asn Leu Tyr Pro Gly Glu
 1010 1015 1020
 Gln Pro Leu Cys Leu Cys Arg Gly Gly Asn Val Ala Tyr Thr Val
 1025 1030 1035
 Cys Thr Arg Ala Gly Pro Lys Thr Arg Val Pro Leu Ser Pro Arg
 1040 1045 1050
 Glu Tyr Arg Gln Tyr Val Leu Pro Gly Phe Asp Gly Cys Lys Asp
 1055 1060 1065
 Leu Ala Arg Gln Ser Arg Gly Leu Gly Leu Gly Ala Ala Asp Phe
 1070 1075 1080
 Val Asp Glu Ala Ala His Ser His Arg Ala Ala Asn Arg Trp Gly
 1085 1090 1095
 Leu Gly Ala Ala Leu Arg Pro Val Phe Leu Pro Glu Gly Arg Arg
 1100 1105 1110
 Pro Gly Ala Ala Gly Pro Glu Ala Gly Asp Val Pro Thr Trp Ala
 1115 1120 1125
 Arg Val Phe Cys Arg His Ala Leu Leu Glu Pro Asp Pro Ala Ala
 1130 1135 1140
 Glu Pro Leu Val Leu Pro Pro Val Ala Gly Arg Ser Val Ala Leu
 1145 1150 1155
 Tyr Ala Ser Ala Asp Glu Ala Arg Asn Ala Leu Pro Pro Ile Pro
 1160 1165 1170
 Arg Val Met Trp Pro Pro Gly Phe Gly Ala Ala Glu Thr Val Leu
 1175 1180 1185

Glu Gly Ser Asp Gly Thr Arg Phe Val Phe Gly His His Gly Gly
 1190 1195 1200

Ser Glu Arg Pro Ser Glu Thr Gln Ala Gly Arg Gln Arg Arg Thr
 1205 1210 1215

Ala Asp Asp Arg Glu His Ala Leu Glu Leu Asp Asp Trp Glu Val
 1220 1225 1230

Gly Cys Glu Asp Ala Trp Asp Ser Glu Glu Gly Gly Gly Asp Asp
 1235 1240 1245

Gly Asp Ala Pro Gly Ser Ser Phe Gly Val Ser Ile Val Ser Val
 1250 1255 1260

Ala Pro Gly Val Leu Arg Asp Arg Arg Val Gly Leu Arg Pro Ala
 1265 1270 1275

Val Lys Val Glu Leu Leu Ser Ser Ser Ser Ser Glu Asp Glu
 1280 1285 1290

Asp Asp Val Trp Gly Gly Arg Gly Gly Arg Ser Pro Pro Gln Ser
 1295 1300 1305

Arg Gly
 1310

<210> 56
 <211> 467
 <212> PRT
 <213> Varicella zoster

<400> 56

Met Asp Thr Ile Leu Ala Gly Gly Ser Gly Thr Ser Asp Ala Ser Asp
 1 5 10 15

Asn Thr Cys Thr Ile Cys Met Ser Thr Val Ser Asp Leu Gly Lys Thr
 20 25 30

Met Pro Cys Leu His Asp Phe Cys Phe Val Cys Ile Arg Ala Trp Thr
 35 40 45

Ser Thr Ser Val Gln Cys Pro Leu Cys Arg Cys Pro Val Gln Ser Ile
 50 55 60

Leu His Lys Ile Val Ser Asp Thr Ser Tyr Lys Glu Tyr Glu Val His
 65 70 75 80

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Pro Ser Asp Asp Asp Gly Phe Ser Glu Pro Ser Phe Glu Asp Ser Ile
 85 90 95
 Asp Ile Leu Pro Gly Asp Val Ile Asp Leu Leu Pro Pro Ser Pro Gly
 100 105 110
 Pro Ser Arg Glu Ser Ile Gln Gln Pro Thr Ser Arg Ser Ser Arg Glu
 115 120 125
 Pro Ile Gln Ser Pro Asn Pro Gly Pro Leu Gln Ser Ser Ala Arg Glu
 130 135 140
 Pro Thr Ala Glu Ser Pro Ser Asp Ser Gln Gln Asp Ser Ile Gln Pro
 145 150 155 160
 Pro Thr Arg Asp Ser Ser Pro Gly Val Thr Lys Thr Cys Ser Thr Ala
 165 170 175
 Ser Phe Leu Arg Lys Val Phe Phe Lys Asp Gln Pro Ala Val Arg Ser
 180 185 190
 Ala Thr Pro Val Val Tyr Gly Ser Ile Glu Ser Ala Gln Gln Pro Arg
 195 200 205
 Thr Gly Gly Gln Asp Tyr Arg Asp Arg Pro Val Ser Val Gly Ile Asn
 210 215 220
 Gln Asp Pro Arg Thr Met Asp Arg Leu Pro Phe Arg Ala Thr Asp Arg
 225 230 235 240
 Gly Thr Glu Gly Asn Ala Arg Phe Pro Cys Tyr Met Gln Pro Leu Leu
 245 250 255
 Gly Trp Leu Asp Asp Gln Leu Ala Glu Leu Tyr Gln Pro Glu Ile Val
 260 265 270
 Glu Pro Thr Lys Met Leu Ile Leu Asn Tyr Ile Gly Ile Tyr Gly Arg
 275 280 285
 Asp Glu Ala Gly Leu Lys Thr Ser Leu Arg Cys Leu Leu His Asp Ser
 290 295 300
 Thr Gly Pro Phe Val Thr Asn Met Leu Phe Leu Leu Asp Arg Cys Thr
 305 310 315 320
 Asp Pro Thr Arg Leu Thr Met Gln Thr Trp Thr Trp Lys Asp Thr Ala
 325 330 335

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Ile Gln Leu Ile Thr Gly Pro Ile Val Arg Pro Glu Thr Thr Ser Thr
340 345 350

Gly Glu Thr Ser Arg Gly Asp Glu Arg Asp Thr Arg Leu Val Asn Thr
355 360 365

Pro Gln Lys Val Arg Leu Phe Ser Val Leu Pro Gly Ile Lys Pro Gly
370 375 380

Ser Ala Arg Gly Ala Lys Arg Arg Leu Phe His Thr Gly Arg Asp Val
385 390 395 400

Lys Arg Cys Leu Thr Ile Asp Leu Thr Ser Glu Ser Asp Ser Ala Cys
405 410 415

Lys Gly Ser Lys Thr Arg Lys Val Ala Ser Pro Gln Gly Glu Ser Asn
420 425 430

Thr Pro Ser Thr Ser Gly Ser Thr Ser Gly Ser Leu Lys His Leu Thr
435 440 445

Lys Lys Ser Ser Ala Gly Lys Ala Gly Lys Gly Ile Pro Asn Lys Met
450 455 460

Lys Lys Ser
465

<210> 57
<211> 305
<212> PRT
<213> Varicella zoster

<400> 57

Met Asp Val Ser Gly Glu Pro Thr Val Cys Ser Asn Ala Tyr Ala Asn
1 5 10 15

Glu Met Lys Leu Ser Asp Ser Lys Asp Ile Tyr Val Leu Ala His Pro
20 25 30

Val Thr Lys Lys Thr Arg Lys Arg Pro Arg Gly Leu Pro Leu Gly Val
35 40 45

Lys Leu Asp Pro Pro Thr Phe Lys Leu Asn Asn Met Ser His His Tyr
50 55 60

Asp Thr Glu Thr Phe Thr Pro Val Ser Ser Gln Leu Asp Ser Val Glu
65 70 75 80

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Val Phe Ser Lys Phe Asn Ile Ser Pro Glu Trp Tyr Asp Leu Leu Ser
85 90 95

Asp Glu Leu Lys Glu Pro Tyr Ala Lys Gly Ile Phe Leu Glu Tyr Asn
100 105 110

Arg Leu Leu Asn Ser Gly Glu Glu Ile Leu Pro Ser Thr Gly Asp Ile
115 120 125

Phe Ala Trp Thr Arg Phe Cys Gly Pro Gln Ser Ile Arg Val Val Ile
130 135 140

Ile Gly Gln Asp Pro Tyr Pro Thr Ala Gly His Ala His Gly Leu Ala
145 150 155 160

Phe Ser Val Lys Arg Gly Ile Thr Pro Pro Ser Ser Leu Lys Asn Ile
165 170 175

Phe Ala Ala Leu Met Glu Ser Tyr Pro Asn Met Thr Pro Pro Thr His
180 185 190

Gly Cys Leu Glu Ser Trp Ala Arg Gln Gly Val Leu Leu Leu Asn Thr
195 200 205

Thr Leu Thr Val Arg Arg Gly Thr Pro Gly Ser His Val Tyr Leu Gly
210 215 220

Trp Gly Arg Leu Val Gln Arg Val Leu Gln Arg Leu Cys Glu Asn Arg
225 230 235 240

Thr Gly Leu Val Phe Met Leu Trp Gly Ala His Ala Gln Lys Thr Thr
245 250 255

Gln Pro Asn Ser Arg Cys His Leu Val Leu Thr His Ala His Pro Ser
260 265 270

Pro Leu Ser Arg Val Pro Phe Arg Asn Cys Arg His Phe Val Gln Ala
275 280 285

Asn Glu Tyr Phe Thr Arg Lys Gly Glu Pro Glu Ile Asp Trp Ser Val
290 295 300

Ile
305

<210> 58
<211> 71

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<212> PRT

<213> Varicella zoster

<400> 58

Met Asp Val Arg Glu Arg Asn Val Phe Gly Asn Ala Ser Val Ala Thr
1 5 10 15Pro Gly Glu His Gln Lys Phe Val Arg Glu Leu Ile Leu Ser Gly His
20 25 30Asn Asn Val Val Leu Gln Thr Tyr Thr Gly Lys Trp Ser Asp Cys Arg
35 40 45Lys His Gly Lys Ser Val Met Tyr Asn Thr Gly Glu Ala Arg His Pro
50 55 60Thr Cys Lys Ala His Gln Arg
65 70

<210> 59

<211> 331

<212> PRT

<213> Varicella zoster

<400> 59

Met Gln Arg Ile Arg Pro Tyr Trp Ile Lys Phe Glu Gln Thr Gly Gly
1 5 10 15Ala Gly Met Ala Asp Gly Met Ser Gly Ile Asn Ile Pro Ser Ile Leu
20 25 30Gly Cys Ser Val Thr Ile Asp Asn Leu Leu Thr Arg Ala Glu Glu Gly
35 40 45Leu Asp Val Ser Asp Val Ile Glu Asp Leu Arg Ile Gln Ala Ile Pro
50 55 60Arg Phe Val Cys Glu Ala Arg Glu Val Thr Gly Leu Lys Pro Arg Phe
65 70 75 80Leu Ala Asn Ser Val Val Ser Leu Arg Val Lys Pro Glu His Gln Glu
85 90 95Thr Val Leu Val Val Leu Asn Gly Asp Ser Ser Glu Val Ser Cys Asp
100 105 110Arg Tyr Tyr Met Glu Cys Val Thr Gln Pro Ala Phe Arg Gly Phe Ile
115 120 125

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Phe Ser Val Leu Thr Ala Val Glu Asp Arg Val Tyr Thr Val Gly Val
130 135 140

Pro Pro Arg Leu Leu Ile Tyr Arg Met Thr Leu Phe Arg Pro Asp Asn
145 150 155 160

Val Leu Asp Phe Thr Leu Cys Val Ile Leu Met Tyr Leu Glu Gly Ile
165 170 175

Gly Pro Ser Gly Ala Ser Pro Ser Leu Phe Val Gln Leu Ser Val Tyr
180 185 190

Leu Arg Arg Val Glu Cys Gln Ile Gly Pro Leu Glu Lys Met Arg Arg
195 200 205

Phe Leu Tyr Glu Gly Val Leu Trp Leu Leu Asn Thr Leu Met Tyr Val
210 215 220

Val Asp Asn Asn Pro Phe Thr Lys Thr Arg Val Leu Pro His Tyr Met
225 230 235 240

Phe Val Lys Leu Leu Asn Pro Gln Pro Gly Thr Ala Pro Asn Ile Ile
245 250 255

Lys Ala Ile Tyr Ser Cys Gly Val Gly Gln Arg Phe Asp Leu Pro His
260 265 270

Gly Thr Pro Pro Cys Pro Asp Gly Val Val Gln Val Pro Pro Gly Leu
275 280 285

Leu Asn Gly Pro Leu Arg Asp Ser Glu Tyr Gln Lys Ser Val Tyr Phe
290 295 300

Trp Trp Leu Asn Arg Thr Met Val Thr Pro Lys Asn Val Gln Leu Phe
305 310 315 320

Glu Thr Tyr Lys Asn Ser Pro Arg Val Val Lys
325 330

<210> 60
<211> 541
<212> PRT
<213> Varicella zoster

<400> 60

Met Glu Phe Pro Tyr His Ser Thr Val Ser Tyr Asn Gly Val Thr Phe
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Tyr Phe Asn Glu Arg Ala Thr Arg Ala Tyr Phe Ile Cys Gly Gly Cys
 20 25 30
 Leu Ile Ser Ile Pro Arg Lys His Gly Gly Glu Ile Ala Lys Phe Gly
 35 40 45
 His Val Val Arg Gly Val Gly Pro Gly Asp Arg Ser Val Ala Ser Tyr
 50 55 60
 Val Arg Ser Glu Leu Asn Arg Thr Gly Lys Thr Trp Ala Val Ser Ser
 65 70 75 80
 Asn Asn Asn Cys Val Phe Leu Asp Arg Val Ala Leu Leu Ala Ala Gly
 85 90 95
 Ser Gly Ala Val Asp Arg Asp Leu Cys Gly Thr Phe Asp Val Glu Val
 100 105 110
 Glu Asp Pro Thr Leu Ala Asp Tyr Leu Val Ser Leu Pro Val Thr His
 115 120 125
 Leu Thr Leu Val Ala Gly Val Asp Val Thr Arg Glu Asn Lys Leu Lys
 130 135 140
 Leu Phe Pro Thr Pro Thr Ala Ile Asn Thr Thr Asn Gly Phe Met Tyr
 145 150 155 160
 Val Pro Asn Glu Ala Ser Phe Ser Leu Val Tyr Met Arg Met Leu Glu
 165 170 175
 Leu Pro Glu Ser Leu Gln Glu Leu Val Ser Gly Leu Phe Asp Gly Thr
 180 185 190
 Pro Glu Ile Arg Asp Ala Leu Asn Gly Ser Asn Asp Asp Glu Lys Thr
 195 200 205
 Ser Ile Ile Val Ser Arg Arg Ala Ala Asp Val Val Thr Glu Asp Val
 210 215 220
 Lys Ala Asp Asp Val Pro Ile Ser Gly Glu Pro Tyr Ser Glu Lys Gln
 225 230 235 240
 Pro Arg Arg Arg Lys Lys Ser Asp His Ile Thr Leu Ser Asn Phe Val
 245 250 255
 Gln Ile Arg Thr Ile Pro Arg Val Met Asp Ile Trp Asp Pro Arg His
 260 265 270

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Lys Ala Thr Thr His Cys Ile Arg Ala Leu Ser Cys Ala Val Phe Phe
 275 280 285
 Ala Asp Glu Val Ile Phe Lys Ala Arg Lys Trp Pro Gly Leu Glu Asp
 290 295 300
 Glu Leu Asn Glu Ala Arg Glu Thr Ile Tyr Thr Ala Val Val Ala Val
 305 310 315 320
 Tyr Gly Glu Arg Gly Glu Leu Pro Phe Phe Gly His Ala Tyr Gly Arg
 325 330 335
 Asp Leu Thr Ser Cys Gln Arg Phe Val Ile Val Gln Tyr Ile Leu Ser
 340 345 350
 Arg Trp Glu Ala Phe Asn Cys Tyr Ala Val Ile Glu Asp Leu Thr Arg
 355 360 365
 Ser Tyr Val Asn Ala Leu Pro Ser Asp Asp Asp Thr Asp Gln Val Ala
 370 375 380
 Gln Asp Leu Ile Arg Thr Ile Val Asp Thr Ala Asn Ser Leu Leu Arg
 385 390 395 400
 Glu Val Gly Phe Ile Gly Thr Leu Ala Glu Thr Leu Leu Phe Leu Pro
 405 410 415
 Leu Pro Gln Leu Pro Cys Tyr Lys Glu Thr Ser His Leu Ala Lys Lys
 420 425 430
 Glu Gly Val Arg Ile Leu Arg Leu Ala Lys Thr Gly Val Gly Leu Ser
 435 440 445
 Asp Thr Val Pro Val Asp Val Ser Val Thr Glu Arg His Glu Tyr Glu
 450 455 460
 Ile Ser Arg Tyr Leu Asp Thr Leu Tyr Ser Gly Asp Pro Cys Tyr Asn
 465 470 475 480
 Gly Ala Val Arg Leu Cys Arg Leu Leu Gly Ser Ser Ile Pro Ile Ala
 485 490 495
 Leu Tyr Tyr Asn Thr Ile Ser Gly Asn Ala Phe Glu Pro Tyr Phe Ala
 500 505 510

Gly Arg Arg Tyr Ile Ala Tyr Leu Gly Ala Leu Phe Phe Gly Arg Val
 Page 362

515

His Gln Thr Pro Phe Gly Asp Gly Lys Lys Thr Gln Arg
530 535 540

<210> 61
<211> 258
<212> PRT
<213> Varicella zoster

<400> 61

Met Ser Ala Ser Arg Ile Arg Ala Lys Cys Phe Arg Leu Gly Gln Arg
1 5 10 15

Cys His Thr Arg Phe Tyr Asp Val Leu Lys Lys Asp Ile Asp Asn Val
20 25 30

Arg Arg Gly Phe Ala Asp Ala Phe Asn Pro Arg Leu Ala Lys Leu Leu
35 40 45

Ser Pro Leu Ser His Val Asp Val Gln Arg Ala Val Arg Ile Ser Met
50 55 60

Ser Phe Glu Val Asn Leu Gly Arg Arg Arg Pro Asp Cys Val Cys Ile
65 70 75 80

Ile Gln Thr Glu Ser Ser Gly Ala Gly Lys Thr Val Cys Phe Ile Val
85 90 95

Glu Leu Lys Ser Cys Arg Phe Ser Ala Asn Ile His Thr Pro Thr Lys
100 105 110

Tyr His Gln Phe Cys Glu Gly Met Arg Gln Leu Arg Asp Thr Met Ala
115 120 125

Leu Ile Lys Glu Thr Thr Pro Thr Gly Ser Asp Glu Ile Met Val Thr
130 135 140

Pro Leu Leu Val Phe Val Ser Gln Arg Gly Leu Asn Leu Leu Gln Val
145 150 155 160

Thr Arg Leu Pro Pro Lys Val Ile His Gly Asn Leu Val Met Leu Ala
165 170 175

Ser His Leu Glu Asn Val Ala Glu Tyr Thr Pro Pro Ile Arg Ser Val
180 185 190

Arg Glu Arg Arg Arg Leu Cys Lys Lys Lys Ile His Val Cys Ser Leu
Page 363

195

Ala Lys Lys Arg Ala Lys Ser Cys His Arg Ser Ala Leu Thr Lys Phe
210 215 220

Glu Glu Asn Ala Ala Cys Gly Val Asp Leu Pro Leu Arg Arg Pro Ser
225 230 235 240

Leu Gly Ala Cys Gly Gly Ile Leu Gln Ser Ile Thr Gly Met Phe Ser
245 250 255

His Gly

<210> 62
<211> 579
<212> PRT
<213> Varicella zoster

<400> 62

Met Thr Ala Arg Tyr Gly Phe Gly Ser Ile Ser Phe Pro Asn Lys Cys
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Gly Ile Phe Leu Ser Thr Thr Lys Asn Phe Ile Ala Pro Asn Phe Pro
20 25 30

Ile His Tyr Trp Thr Ala Pro Ala Phe Glu Leu Arg Gly Arg Met Asn
35 40 45

Pro Asp Leu Glu Lys Asn Thr Leu Thr Leu Lys Asn Ala Ala Ala Val
50 55 60

Ala Ala Leu Asp Asn Leu Arg Gly Glu Thr Ile Thr Leu Pro Thr Glu
65 70 75 80

Ile Asp Arg Arg Leu Lys Pro Leu Glu Glu Gln Leu Thr Arg Met Ala
85 90 95

Lys Val Leu Asp Ser Leu Glu Thr Ala Ala Ala Glu Ala Glu Glu Ala
100 105 110

Asp Ala Gln Ser Glu Glu Cys Thr Arg Thr Glu Ile Ile Arg Asn Glu
115 120 125

Ser Ile His Pro Glu Val Gln Ile Ala Lys Asn Asp Ala Pro Leu Gln
130 135 140

Tyr Asp Thr Asn Phe Gln Val Asp Phe Ile Thr Leu Val Tyr Leu Gly
Page 364

145					150					155					160
Arg	Ala	Arg	Gly	Asn	Asn	Ser	Pro	Gly	Ile	Val	Phe	Gly	Pro	Trp	Tyr
				165					170					175	
Arg	Thr	Leu	Gln	Glu	Arg	Leu	Val	Leu	Asp	Arg	Pro	Val	Ala	Ala	Arg
			180					185					190		
Gly	Val	Asp	Cys	Lys	Asp	Gly	Arg	Ile	Ser	Arg	Thr	Phe	Met	Asn	Thr
		195					200					205			
Thr	Val	Thr	Cys	Leu	Gln	Ser	Ala	Gly	Arg	Met	Tyr	Val	Gly	Asp	Arg
	210					215					220				
Ala	Tyr	Ser	Ala	Phe	Glu	Cys	Ala	Val	Leu	Cys	Leu	Tyr	Leu	Met	Tyr
225					230					235					240
Arg	Thr	Ser	Asn	Ser	Val	His	Glu	Pro	Gln	Val	Ser	Ser	Phe	Gly	Asn
				245					250					255	
Leu	Ile	Glu	His	Leu	Pro	Glu	Tyr	Thr	Glu	Thr	Phe	Val	Asn	Tyr	Met
			260					265					270		
Thr	Thr	His	Glu	Asn	Lys	Asn	Ser	Tyr	Gln	Phe	Cys	Tyr	Asp	Arg	Leu
		275					280					285			
Pro	Arg	Asp	Gln	Phe	His	Ala	Arg	Gly	Gly	Arg	Tyr	Asp	Gln	Gly	Ala
	290					295					300				
Leu	Thr	Ser	His	Ser	Val	Met	Asp	Ala	Leu	Ile	Arg	Leu	Gln	Val	Leu
305					310					315					320
Pro	Pro	Ala	Pro	Gly	Gln	Phe	Asn	Pro	Gly	Val	Asn	Asp	Ile	Ile	Asp
				325					330					335	
Arg	Asn	His	Thr	Ala	Tyr	Val	Asp	Lys	Ile	Gln	Gln	Ala	Ala	Ala	Ala
			340					345					350		
Tyr	Leu	Glu	Arg	Ala	Gln	Asn	Val	Phe	Leu	Met	Glu	Asp	Gln	Thr	Leu
		355					360					365			
Leu	Arg	Leu	Thr	Ile	Asp	Thr	Ile	Thr	Ala	Leu	Leu	Leu	Leu	Arg	Arg
	370					375					380				
Leu	Leu	Trp	Asn	Gly	Asn	Val	Tyr	Gly	Asp	Lys	Leu	Lys	Asn	Asn	Phe
385					390					395					400

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Gln Leu Gly Leu Ile Val Ser Glu Ala Thr Gly Thr Pro Thr Asn Asn
405 410 415

Val Ile Leu Arg Gly Ala Thr Gly Phe Asp Gly Lys Phe Lys Ser Gly
420 425 430

Asn Asn Asn Phe Gln Phe Leu Cys Glu Arg Tyr Ile Ala Pro Leu Tyr
435 440 445

Thr Leu Asn Arg Thr Thr Glu Leu Thr Glu Met Phe Pro Gly Leu Val
450 455 460

Ala Leu Cys Leu Asp Ala His Thr Gln Leu Ser Arg Gly Ser Leu Gly
465 470 475 480

Arg Thr Val Ile Asp Ile Ser Ser Gly Gln Tyr Gln Asp Arg Leu Ile
485 490 495

Ser Leu Ile Ala Leu Glu Leu Glu His Arg Arg Gln Asn Val Thr Ser
500 505 510

Leu Pro Ile Ala Ala Val Val Ser Ile His Asp Ser Val Met Leu Gln
515 520 525

Tyr Glu Arg Gly Leu Gly Met Leu Met His Gln Pro Arg Val Arg Ala
530 535 540

Ala Leu Glu Glu Ser Arg Arg Leu Ala Gln Phe Asn Val Asn Ser Asp
545 550 555 560

Tyr Asp Leu Leu Tyr Phe Val Cys Leu Gly Val Ile Pro Gln Phe Ala
565 570 575

Ser Thr Pro

<210> 63

<211> 605

<212> PRT

<213> Varicella zoster

<400> 63

Met Ala Ala Glu Ala Asp Glu Glu Asn Cys Glu Ala Leu Tyr Val Ala
1 5 10 15

Gly Tyr Leu Ala Leu Tyr Ser Lys Asp Glu Gly Glu Leu Asn Ile Thr
20 25 30

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Pro Glu Ile Val Arg Ser Ala Leu Pro Pro Thr Ser Lys Ile Pro Ile
35 40 45

Asn Ile Asp His Arg Lys Asp Cys Val Val Gly Glu Val Ile Ala Ile
50 55 60

Ile Glu Asp Ile Arg Gly Pro Phe Phe Leu Gly Ile Val Arg Cys Pro
65 70 75 80

Gln Leu His Ala Val Leu Phe Glu Ala Ala His Ser Asn Phe Phe Gly
85 90 95

Asn Arg Asp Ser Val Leu Ser Pro Leu Glu Arg Ala Leu Tyr Leu Val
100 105 110

Thr Asn Tyr Leu Pro Ser Val Ser Leu Ser Ser Lys Arg Leu Ser Pro
115 120 125

Asn Glu Ile Pro Asp Gly Asn Phe Phe Thr His Val Ala Leu Cys Val
130 135 140

Val Gly Arg Arg Val Gly Thr Val Val Asn Tyr Asp Cys Thr Pro Glu
145 150 155 160

Ser Ser Ile Glu Pro Phe Arg Val Leu Ser Met Glu Ser Lys Ala Arg
165 170 175

Leu Leu Ser Leu Val Lys Asp Tyr Ala Gly Leu Asn Lys Val Trp Lys
180 185 190

Val Ser Glu Asp Lys Leu Ala Lys Val Leu Leu Ser Thr Ala Val Asn
195 200 205

Asn Met Leu Leu Arg Asp Arg Trp Asp Val Val Ala Lys Arg Arg Arg
210 215 220

Glu Ala Gly Ile Met Gly His Val Tyr Leu Gln Ala Ser Thr Gly Tyr
225 230 235 240

Gly Leu Ala Arg Ile Thr Asn Val Asn Gly Val Glu Ser Lys Leu Pro
245 250 255

Asn Ala Gly Val Ile Asn Ala Thr Phe His Pro Gly Gly Pro Ile Tyr
260 265 270

Asp Leu Ala Leu Gly Val Gly Glu Ser Asn Glu Asp Cys Glu Lys Thr
275 280 285

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Val Pro His Leu Lys Val Thr Gln Leu Cys Arg Asn Asp Ser Asp Met
290 295 300

Ala Ser Val Ala Gly Asn Ala Ser Asn Ile Ser Pro Gln Pro Pro Ser
305 310 315 320

Gly Val Pro Thr Gly Gly Glu Phe Val Leu Ile Pro Thr Ala Tyr Tyr
325 330 335

Ser Gln Leu Leu Thr Gly Gln Thr Lys Asn Pro Gln Val Ser Ile Gly
340 345 350

Ala Pro Asn Asn Gly Gln Tyr Ile Val Gly Pro Tyr Gly Ser Pro His
355 360 365

Pro Pro Ala Phe Pro Pro Asn Thr Gly Gly Tyr Gly Cys Pro Pro Gly
370 375 380

His Phe Gly Gly Pro Tyr Gly Phe Pro Gly Tyr Pro Pro Pro Asn Arg
385 390 395 400

Leu Glu Met Gln Met Ser Ala Phe Met Asn Ala Leu Ala Ala Glu Arg
405 410 415

Gly Ile Asp Leu Gln Thr Pro Cys Val Asn Phe Pro Asp Lys Thr Asp
420 425 430

Val Arg Arg Pro Gly Lys Arg Asp Phe Lys Ser Met Asp Gln Arg Glu
435 440 445

Leu Asp Ser Phe Tyr Ser Gly Glu Ser Gln Met Asp Gly Glu Phe Pro
450 455 460

Ser Asn Ile Tyr Phe Pro Gly Glu Pro Thr Tyr Ile Thr His Arg Arg
465 470 475 480

Arg Arg Val Ser Pro Ser Tyr Trp Gln Arg Arg His Arg Val Ser Asn
485 490 495

Gly Gln His Glu Glu Leu Ala Gly Val Val Ala Lys Leu Gln Gln Glu
500 505 510

Val Thr Glu Leu Lys Ser Gln Asn Gly Thr Gln Met Pro Leu Ser His
515 520 525

His Thr Asn Ile Pro Glu Gly Thr Arg Asp Pro Arg Ile Ser Ile Leu
530 535 540

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Leu Lys Gln Leu Gln Ser Val Ser Gly Leu Cys Ser Ser Gln Asn Thr
545 550 555 560

Thr Ser Thr Pro His Thr Asp Thr Val Gly Gln Asp Val Asn Ala Val
565 570 575

Glu Ala Ser Ser Lys Ala Pro Leu Ile Gln Gly Ser Thr Ala Asp Asp
580 585 590

Ala Asp Met Phe Ala Asn Gln Met Met Val Gly Arg Cys
595 600 605

<210> 64

<211> 1194

<212> PRT

<213> Varicella zoster

<400> 64

Met Ala Ile Arg Thr Gly Phe Cys Asn Pro Phe Leu Thr Gln Ala Ser
1 5 10 15

Gly Ile Lys Tyr Asn Pro Arg Thr Gly Arg Gly Ser Asn Arg Glu Phe
20 25 30

Leu His Ser Tyr Lys Thr Thr Met Ser Ser Phe Gln Phe Leu Ala Pro
35 40 45

Lys Cys Leu Asp Glu Asp Val Pro Met Glu Glu Arg Lys Gly Val His
50 55 60

Val Gly Thr Leu Ser Arg Pro Pro Lys Val Tyr Cys Asn Gly Lys Glu
65 70 75 80

Val Pro Ile Leu Asp Phe Arg Cys Ser Ser Pro Trp Pro Arg Arg Val
85 90 95

Asn Ile Trp Gly Glu Ile Asp Phe Arg Gly Asp Lys Phe Asp Pro Arg
100 105 110

Phe Asn Thr Phe His Val Tyr Asp Ile Val Glu Thr Thr Glu Ala Ala
115 120 125

Ser Asn Gly Asp Val Ser Arg Phe Ala Thr Ala Thr Arg Pro Leu Gly
130 135 140

Thr Val Ile Thr Leu Leu Gly Met Ser Arg Cys Gly Lys Arg Val Ala
145 150 155 160

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Val His Val Tyr Gly Ile Cys Gln Tyr Phe Tyr Ile Asn Lys Ala Glu
165 170 175

Val Asp Thr Ala Cys Gly Ile Arg Ser Gly Ser Glu Leu Ser Val Leu
180 185 190

Leu Ala Glu Cys Leu Arg Ser Ser Met Ile Thr Gln Asn Asp Ala Thr
195 200 205

Leu Asn Gly Asp Lys Asn Ala Phe His Gly Thr Ser Phe Lys Ser Ala
210 215 220

Ser Pro Glu Ser Phe Arg Val Glu Val Ile Glu Arg Thr Asp Val Tyr
225 230 235 240

Tyr Tyr Asp Thr Gln Pro Cys Ala Phe Tyr Arg Val Tyr Ser Pro Ser
245 250 255

Ser Lys Phe Thr Asn Tyr Leu Cys Asp Asn Phe His Pro Glu Leu Lys
260 265 270

Lys Tyr Glu Gly Arg Val Asp Ala Thr Thr Arg Phe Leu Met Asp Asn
275 280 285

Pro Gly Phe Val Ser Phe Gly Trp Tyr Gln Leu Lys Pro Gly Val Asp
290 295 300

Gly Glu Arg Val Arg Val Arg Pro Ala Ser Arg Gln Leu Thr Leu Ser
305 310 315 320

Asp Val Glu Ile Asp Cys Met Ser Asp Asn Leu Gln Ala Ile Pro Asn
325 330 335

Asp Asp Ser Trp Pro Asp Tyr Lys Leu Leu Cys Phe Asp Ile Glu Cys
340 345 350

Lys Ser Gly Gly Ser Asn Glu Leu Ala Phe Pro Asp Ala Thr His Leu
355 360 365

Glu Asp Leu Val Ile Gln Ile Ser Cys Leu Leu Tyr Ser Ile Pro Arg
370 375 380

Gln Ser Leu Glu His Ile Leu Leu Phe Ser Leu Gly Ser Cys Asp Leu
385 390 395 400

Pro Gln Arg Tyr Val Gln Glu Met Lys Asp Ala Gly Leu Pro Glu Pro
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410

415

Thr Val Leu Glu Phe Asp Ser Glu Phe Glu Leu Leu Ile Ala Phe Met
 420 425 430

Thr Leu Val Lys Gln Tyr Ala Pro Glu Phe Ala Thr Gly Tyr Asn Ile
 435 440 445

Val Asn Phe Asp Trp Ala Phe Ile Met Glu Lys Leu Asn Ser Ile Tyr
 450 455 460

Ser Leu Lys Leu Asp Gly Tyr Gly Ser Ile Asn Arg Gly Gly Leu Phe
 465 470 475 480

Lys Ile Trp Asp Val Gly Lys Ser Gly Phe Gln Arg Arg Ser Lys Val
 485 490 495

Lys Ile Asn Gly Leu Ile Ser Leu Asp Met Tyr Ala Ile Ala Thr Glu
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Lys Leu Lys Leu Ser Ser Tyr Lys Leu Asp Ser Val Ala Arg Glu Ala
 515 520 525

Leu Asn Glu Ser Lys Arg Asp Leu Pro Tyr Lys Asp Ile Pro Gly Tyr
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Tyr Ala Ser Gly Pro Asn Thr Arg Gly Ile Ile Gly Glu Tyr Cys Ile
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Gln Asp Ser Ala Leu Val Gly Lys Leu Phe Phe Lys Tyr Leu Pro His
 565 570 575

Leu Glu Leu Ser Ala Val Ala Arg Leu Ala Arg Ile Thr Leu Thr Lys
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Ala Ile Tyr Asp Gly Gln Gln Val Arg Ile Tyr Thr Cys Leu Leu Gly
 595 600 605

Leu Ala Ser Ser Arg Gly Phe Ile Leu Pro Asp Gly Gly Tyr Pro Ala
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Thr Phe Glu Tyr Lys Asp Val Ile Pro Asp Val Gly Asp Val Glu Glu
 625 630 635 640

Glu Met Asp Glu Asp Glu Ser Val Ser Pro Thr Gly Thr Ser Ser Gly
 645 650 655

Arg Asn Val Gly Tyr Lys Gly Ala Arg Val Phe Asp Pro Asp Thr Gly
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 Phe Tyr Ile Asp Pro Val Val Val Leu Asp Phe Ala Ser Leu Tyr Pro
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 Ser Ile Ile Gln Ala His Asn Leu Cys Phe Thr Thr Leu Thr Leu Asn
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 Phe Glu Thr Val Lys Arg Leu Asn Pro Ser Asp Tyr Ala Thr Phe Thr
 705 710 715 720
 Val Gly Gly Lys Arg Leu Phe Phe Val Arg Ser Asn Val Arg Glu Ser
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 Arg Ala Arg Ile Pro Gly Ser Ser Ser Asp Glu Ala Val Leu Leu Asp
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 Lys Gln Gln Ala Ala Ile Lys Val Val Cys Asn Ser Val Tyr Gly Phe
 770 775 780
 Thr Gly Val Ala Gln Gly Phe Leu Pro Cys Leu Tyr Val Ala Ala Thr
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 Val Thr Thr Ile Gly Arg Gln Met Leu Leu Ser Thr Arg Asp Tyr Ile
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 His Asn Asn Trp Ala Ala Phe Glu Arg Phe Ile Thr Ala Phe Pro Asp
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 Ile Glu Ser Ser Val Leu Ser Gln Lys Ala Tyr Glu Val Lys Val Ile
 835 840 845
 Tyr Gly Asp Thr Asp Ser Val Phe Ile Arg Phe Lys Gly Val Ser Val
 850 855 860
 Glu Gly Ile Ala Lys Ile Gly Glu Lys Met Ala His Ile Ile Ser Thr
 865 870 875 880
 Ala Leu Phe Cys Pro Pro Ile Lys Leu Glu Cys Glu Lys Thr Phe Ile
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 Lys Leu Leu Leu Ile Thr Lys Lys Lys Tyr Ile Gly Val Ile Tyr Gly
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Asp Asp Thr Val Ser Arg Ala Ala Ala Glu Ala Ser Cys Val Ser Ile
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Ala Glu Trp Asn Arg Arg Ala Met Pro Ser Gly Met Ala Gly Phe Gly
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Arg Ile Ile Ala Asp Ala His Arg Gln Ile Thr Ser Pro Lys Leu Asp
980 985 990

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Tyr Ile Asn Arg Arg Leu Ala His Leu Thr Val Tyr Tyr Lys Leu
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Val Met Arg Gln Gly Gln Ile Pro Asn Val Arg Glu Arg Ile Pro
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Tyr Val Ile Val Ala Pro Thr Asp Glu Val Glu Ala Asp Ala Lys
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Phe Lys Ala Leu Phe Gly Asn Asp Thr Lys Leu Thr Glu Arg Leu
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Leu Lys Arg Phe Ile Pro Glu Thr Arg Val Val Asn Val Lys Met
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Leu Asn Arg Leu Gln Ala Ala Gly Phe Val Cys Ile His Ala Pro
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Asp Thr Asp Val Asn Leu Leu Asn Ile Asp Ala Leu Glu Ser Lys Tyr
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Phe Pro Ala Asp Ser Thr Phe Thr Leu Ser Val Trp Phe Glu Asn Leu
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Ile Pro Pro Glu Ile Glu Ala Ile Leu Pro Thr Thr Asp Ala Gln Leu
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Asn Tyr Ile Ser Phe Thr Ser Arg Leu Ala Ser Val Leu Lys His Lys
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Glu Ser Asn Asp Ser Glu Lys Ser Ala Tyr Val Val Pro Cys Glu His
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Arg Cys Val Phe Gln Phe Asn Gly Glu Asp Asn Val Ser Glu Ala Phe
 50 55 60

Pro Val Glu Tyr Ile Met Arg Leu Met Ala Asn Trp Ala Gln Val Asp
 65 70 75 80

Cys Asp Pro Tyr Ile Lys Ile Gln Asn Thr Gly Val Ser Val Leu Phe
 85 90 95

Gln Gly Phe Phe Phe Arg Pro Thr Asn Ala Pro Val Ala Glu Val Ser
 100 105 110

Ile Asp Ser Asn Asn Val Ile Leu Ser Ser Thr Leu Ser Thr Gly Ile
 115 120 125

Asn Leu Ser Ala Leu Glu Ser Ile Lys Arg Gly Gly Gly Ile Asp Arg
 130 135 140

Arg Pro Leu Gln Ala Leu Met Trp Val Asn Cys Phe Val Arg Met Pro
 145 150 155 160

Tyr Val Gln Leu Ser Phe Arg Phe Met Gly Pro Glu Asp Pro Ser Arg
 165 170 175

Thr Ile Lys Leu Met Ala Arg Ala Thr Asp Ala Tyr Met Tyr Lys Glu
 180 185 190

Thr Gly Asn Asn Leu Asp Glu Tyr Ile Arg Trp Arg Pro Ser Phe Arg
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Ser Pro Pro Glu Asn Gly Ser Pro Asn Thr Ser Val Gln Met Gln Ser
 210 215 220

Asp Ile Lys Pro Ala Leu Pro Asp Thr Gln Thr Thr Arg Val Trp Lys
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Asp Ile Ala Asp Ala Arg Ser Ile Tyr Thr Val Gly Ala Ala Ala Ser
50 55 60

Ala Ala Arg Ala Arg Ala Asn His Asn Ala Asn Thr Ile Arg Arg Thr
65 70 75 80

Ala Met Phe Ala Glu Thr Asp Pro Met Thr Trp Leu Arg Pro Thr Val
85 90 95

Gly Leu Lys Arg Thr Phe Asn Pro Arg Ile Ile Arg Pro Gln Pro Pro
100 105 110

Asn Pro Ser Met Ser Leu Gly Ile Ser Gly Pro Thr Ile Leu Pro Gln
115 120 125

Lys Thr Gln Ser Ala Asp Gln Ser Ala Leu Gln Gln Pro Ala Ala Leu
130 135 140

Ala Phe Ser Gly Ser Ser Pro Gln His Pro Pro Pro Gln Thr Thr Ser
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Ala Ser Val Gly Gln Gln Gln His Val Val Ser Gly Ser Ser Gly Gln
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Gln Pro Gln Gln Gly Ala Gln Ser Ser Thr Val Gln Pro Thr Thr Gly
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Ser Pro Pro Ala Ala Gln Gly Val Pro Gln Ser Thr Pro Pro Pro Thr
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Ile Gly Asn Gly Leu His Met Thr Tyr Ala Pro Gly Phe Phe Gly Asn
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Trp Ser Arg Asp Leu Thr Ile Gly Pro Arg Phe Gly Gly Leu Asn Lys
50 55 60

Gln Pro Ile His Val Pro Pro Lys Arg Thr Glu Thr Ala Ser Ile Gln
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Val Thr Pro Arg Ser Ile Val Ile Asn Arg Met Asn Asn Ile Gln Ile
85 90 95

Asn Pro Thr Ser Ile Gly Asn Pro Gln Val Thr Ile Arg Leu Pro Leu
100 105 110

Asn Asn Phe Lys Ser Thr Thr Gln Leu Ile Gln Gln Val Ser Leu Thr
115 120 125

Asp Phe Phe Arg Pro Asp Ile Glu His Ala Gly Ser Ile Val Leu Ile
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Leu Arg His Pro Ser Asp Met Ile Gly Glu Ala Asn Thr Leu Thr Gln
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Ala Gly Arg Asp Pro Asp Val Leu Leu Glu Gly Leu Arg Asn Leu Phe
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Asn Ala Cys Thr Ala Pro Trp Thr Val Gly Glu Gly Gly Gly Leu Arg
180 185 190

Ala Tyr Val Thr Ser Leu Ser Phe Ile Ala Ala Cys Arg Ala Glu Glu
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Tyr Thr Asp Lys Gln Ala Ala Asp Ala Asn Arg Thr Ala Ile Val Ser
210 215 220

Ala Tyr Gly Cys Ser Arg Met Glu Thr Arg Leu Ile Arg Phe Ser Glu
225 230 235 240

Cys Leu Arg Ala Met Val Gln Cys His Val Phe Pro His Arg Phe Ile
245 250 255

Ser Phe Phe Gly Ser Leu Leu Glu Tyr Thr Ile Gln Asp Asn Leu Cys
260 265 270

Asn Ile Thr Ala Val Ala Lys Gly Pro Gln Glu Ala Ala Arg Thr Asp
275 280 285

Lys Thr Ser Thr Arg Arg Val Thr Ala Asn Ile Pro Ala Cys Val Phe
290 295 300

Trp Asp Val Asp Lys Asp Leu His Leu Ser Ala Asp Gly Leu Lys His
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Val Phe Leu Val Phe Val Tyr Thr Gln Arg Arg Gln Arg Glu Gly Val
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Arg Leu His Leu Ala Leu Ser Gln Leu Asn Glu Gln Cys Phe Gly Arg
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Gly Thr Glu Gly Val Ala Asn Thr His Gln Pro Tyr Asn Thr Arg Ala
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Leu Pro Leu Val Gln Leu Ser Asn Asp Pro Thr Ser Pro Arg Cys Ser
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425

430

Met Tyr Ala Ala Tyr Thr Leu Ile Gly Thr Ile Pro Ser Glu Ser Val
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Leu Thr Ser Pro Ile Leu Cys Leu Thr Pro Arg Val Arg Gln Ala Ile
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Glu Gly Arg Arg Asp Glu Ile Arg Arg Ala Ile Leu Glu Pro Phe Leu
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 115 120 125

Lys Tyr Glu Asp Phe Tyr Leu Thr Lys Leu Glu Glu Gly Lys Leu Glu
 130 135 140

Ser Leu Cys Gln Phe Phe Leu Arg Leu Ala Ala Thr Val Thr Thr Glu
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145 150 155 160
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 Gly Tyr Thr Trp Thr Asp Val Cys Arg Val Phe Phe Thr Ala Leu Ala
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 Val Leu Ala Ala Gly Asn Phe Pro Cys Lys Lys Ser Cys Lys Gly Val
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 Ser Ser Ala Gln Val Thr Glu Cys Ser Glu Gly Phe Ser Pro Ile Tyr
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 Asn Asn Met Phe Ser Lys Val Thr Thr Ser Gly Glu Leu Leu Arg Pro
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675 680 685

Lys Thr Ala Phe Glu Tyr Glu Gln Glu Asp Leu Val Asp Met Cys Ala
690 695 700

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Glu Glu Arg Pro Asp Gly Thr Ile Pro Ala Ser Lys Ile Met Asn Leu
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Leu Ile Arg Ala Tyr Lys Ala Gly Leu Lys Thr Gly Met Tyr Tyr Cys
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Glu Asp Glu Leu Ile Phe Tyr Arg Phe Ile Phe Thr Phe Leu Ser Ala
50 55 60

Ala Asp Asp Leu Val Asn Val Asn Leu Gly Ser Leu Thr Gln Leu Phe
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Ser Gln Lys Asp Ile His His Tyr Tyr Ile Glu Gln Glu Cys Ile Glu
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Val Val His Ala Arg Val Tyr Ser Gln Ile Gln Leu Met Leu Phe Arg
100 105 110

Gly Asp Glu Ser Leu Arg Val Gln Tyr Val Asn Val Thr Ile Asn Asn
115 120 125

Pro Ser Ile Gln Gln Lys Val Gln Trp Leu Glu Glu Lys Val Arg Asp
130 135 140

Asn Pro Ser Val Ala Glu Lys Tyr Ile Leu Met Ile Leu Ile Glu Gly
145 150 155 160

Ile Phe Phe Val Ser Ser Phe Ala Ala Ile Ala Tyr Leu Arg Asn Asn
165 170 175

Gly Leu Phe Val Val Thr Cys Gln Phe Asn Asp Leu Ile Ser Arg Asp
180 185 190

Glu Ala Ile His Thr Ser Ala Ser Cys Cys Ile Tyr Asn Asn Tyr Val
195 200 205

Pro Glu Lys Pro Ala Ile Thr Arg Ile His Gln Leu Phe Ser Glu Ala
210 215 220

Val Glu Ile Glu Cys Ala Phe Leu Lys Ser His Ala Pro Lys Thr Arg
225 230 235 240

Leu Val Asn Val Asp Ala Ile Thr Gln Tyr Val Lys Phe Ser Ala Asp
245 250 255

Arg Leu Leu Ser Ala Ile Asn Val Pro Lys Leu Phe Asn Thr Pro Pro
260 265 270

Pro Asp Ser Asp Phe Pro Leu Ala Phe Met Ile Ala Asp Lys Asn Thr
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Asp Leu
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Gln Asn Leu Lys Leu Thr Arg Asp Glu Thr Cys Tyr Ile Asn Phe Tyr
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290 295 300

Ala Pro Val His Ser Phe Phe Tyr Ala Thr Phe Leu Ser Pro Lys Asp
305 310 315 320

Leu Lys Glu Lys Leu Thr Ser Met Gln Leu Phe Ala Asn Met Glu Ser
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Val Lys Asp Glu Pro Pro Leu Lys Lys Arg Arg Asn Leu Leu Thr Lys
340 345 350

Arg Asn Glu Lys Asn Thr Gly Asn Lys Met Gly Gly Lys Leu Pro Glu
355 360 365

Thr Thr Trp Gln Glu Gly Ile Gly Ile Arg Glu Tyr Cys Val Ala Pro
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Phe Leu Val Gly Leu Gln Ala Ser Val Ile Thr Ser Gly Leu Ile Leu
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 Ala Val Leu Trp Ala Val Gly Cys Pro Ile Ser Arg Asp Leu Pro Phe
 115 120 125
 Val Glu Leu Leu Gly Ile Ser Ile Ser Ala Ile Thr Gly Thr Val Ala
 130 135 140
 Ala Val His Ile His Tyr Tyr Asn Phe Val Thr Thr Phe Asn Gly Pro
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 His Ile Tyr Phe Tyr Val Met Met Leu Gly Thr Gly Leu Gly Gly Leu
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 Leu Thr Val Ile Leu Tyr Met Tyr Val Ser Lys Tyr Glu Val Leu Ile
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 Gly Leu Cys Ile Ser Ile Val Thr Leu Val Ser Ile Val Asp Ala Ala
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 Thr Asp Leu Gln Asp Thr Cys Ile Tyr Arg Lys Asn Arg His Lys Gln
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 Leu Asn Thr Tyr Thr Asp Leu Gly Phe Ala Val Val Tyr Thr Gln Asn
 225 230 235 240
 Asp Arg Gly Arg Val Cys Asp His Arg Glu Ser Ser Arg Thr Leu Lys
 245 250 255
 Arg Val Phe Lys Gly Ile Arg Ile Met Ser Val Ile Pro Pro Val Leu
 260 265 270
 Tyr Ile Val Thr Pro Leu Met Trp Ala Ile Ser His Ile Ile Lys Leu
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 Asn His Phe Ile Lys Leu Thr Gln Val Thr Leu Ala Val Ser Ile Gly
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 Gly His Ile Ile Ala Phe Gly Leu Gln Gly Phe Ala Val Leu Tyr Gln

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Glu Lys Lys Asn Leu Trp Val Ile Val Leu Tyr Thr Thr Thr Ser Val
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Ile Leu Thr Ser Thr Val Ala Ala Gly Leu Thr Cys Ile Gln Met Met
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Arg Leu Ser Val Lys Pro Ile Asp Cys Phe Met Ala Ser His Ile Thr
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Cys Gly Thr Tyr Val Ser
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Thr Ser Ala Ala Thr Arg Lys Pro Asp Pro Ala Val Ala Pro Thr Ser
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Ala Ala Ser Arg Lys Pro Asp Pro Ala Val Ala Pro Thr Ser Ala Ala
50 55 60

Ser Arg Lys Pro Asp Pro Ala Val Ala Pro Thr Ser Ala Ala Ser Arg
65 70 75 80

Lys Pro Asp Pro Ala Val Ala Pro Thr Ser Ala Ala Thr Arg Lys Pro
85 90 95

Asp Pro Ala Val Ala Pro Thr Ser Ala Ala Ser Arg Lys Pro Asp Pro
100 105 110

Ala Val Ala Pro Thr Ser Ala Ala Thr Arg Lys Pro Asp Pro Ala Val
Page 387

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Lys	Thr	Tyr	Glu	Gln	Tyr	Ser	Leu	Asp	Pro	Glu	Gly	Ser	Asn	Ile	Thr
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Thr	Arg	His	Leu	Ile	Asp	Pro	His	Arg	Gln	Leu	Gly	Asn	Ala	Leu	Ile
225					230					235					240
Arg	Met	Pro	Asp	Leu	Pro	Val	Met	Leu	Tyr	Ser	Asn	Ser	Ala	Asp	Leu
				245					250					255	
Asn	Leu	Ile	Asn	Asn	Pro	Glu	Ile	Phe	Thr	His	Ala	Lys	Glu	Asn	Tyr
			260					265					270		
Val	Ile	Pro	Asp	Val	Lys	Thr	Thr	Ser	Asp	Phe	Ser	Val	Thr	Ile	Leu
		275					280					285			
Ser	Met	Asp	Ala	Thr	Thr	Glu	Gly	Thr	Tyr	Ile	Trp	Arg	Val	Val	Asn
	290					295					300				
Thr	Lys	Thr	Lys	Asn	Val	Ile	Ser	Glu	His	Ser	Ile	Thr	Val	Thr	Thr
305					310					315					320
Tyr	Tyr	Arg	Pro	Asn	Ile	Thr	Val	Val	Gly	Asp	Pro	Val	Leu	Thr	Gly
				325					330					335	
Gln	Thr	Tyr	Ala	Ala	Tyr	Cys	Asn	Val	Ser	Lys	Tyr	Tyr	Pro	Pro	His
			340					345					350		
Ser	Val	Arg	Val	Arg	Trp	Thr	Ser	Arg	Phe	Gly	Asn	Ile	Gly	Lys	Asn
		355					360					365			

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Phe Ile Thr Asp Ala Ile Gln Glu Tyr Ala Asn Gly Leu Phe Ser Tyr
370 375 380

Val Ser Ala Val Arg Ile Pro Gln Gln Lys Gln Met Asp Tyr Pro Pro
385 390 395 400

Pro Ala Ile Gln Cys Asn Val Leu Trp Ile Arg Asp Gly Val Ser Asn
405 410 415

Met Lys Tyr Ser Ala Val Val Thr Pro Asp Val Tyr Pro Phe Pro Asn
420 425 430

Val Ser Ile Gly Ile Ile Asp Gly His Ile Val Cys Thr Ala Lys Cys
435 440 445

Val Pro Arg Gly Val Val His Phe Val Trp Trp Val Asn Asp Ser Pro
450 455 460

Ile Asn His Glu Asn Ser Glu Ile Thr Gly Val Cys Asp Gln Asn Lys
465 470 475 480

Arg Phe Val Asn Met Gln Ser Ser Cys Pro Thr Ser Glu Leu Asp Gly
485 490 495

Pro Ile Thr Tyr Ser Cys His Leu Asp Gly Tyr Pro Lys Lys Phe Pro
500 505 510

Pro Phe Ser Ala Val Tyr Thr Tyr Asp Ala Ser Thr Tyr Ala Thr Thr
515 520 525

Phe Ser Val Val Ala Val Ile Ile Gly Val Ile Ser Ile Leu Gly Thr
530 535 540

Leu Gly Leu Ile Ala Val Ile Ala Thr Leu Cys Ile Arg Cys Cys Ser
545 550 555 560

<210> 74
<211> 396
<212> PRT
<213> Varicella zoster

<400> 74

Met Asn Glu Ala Val Ile Asp Pro Ile Leu Glu Thr Ala Val Asn Thr
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Gly Asp Met Phe Cys Ser Gln Thr Ile Pro Asn Arg Cys Leu Lys Asp
20 25 30

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Thr Ile Leu Ile Glu Val Gln Pro Glu Cys Ala Asp Thr Leu Gln Cys
35 40 45

Val Leu Asp Asp Lys Val Ser Arg His Gln Pro Leu Leu Leu Arg Asn
50 55 60

His Lys Lys Leu Glu Leu Pro Ser Glu Lys Ser Val Thr Arg Gly Gly
65 70 75 80

Phe Tyr Met Gln Gln Leu Glu Leu Leu Val Lys Ser Ala Pro Pro Asn
85 90 95

Glu Tyr Ala Leu Leu Leu Ile Gln Cys Lys Asp Thr Ala Leu Ala Asp
100 105 110

Glu Asp Asn Phe Phe Val Ala Asn Gly Val Ile Asp Ala Gly Tyr Arg
115 120 125

Gly Val Ile Ser Ala Leu Leu Tyr Tyr Arg Pro Gly Val Thr Val Ile
130 135 140

Leu Pro Gly His Leu Thr Ile Tyr Leu Phe Pro Val Lys Leu Arg Gln
145 150 155 160

Ser Arg Leu Leu Pro Lys Asn Val Leu Lys His Leu Asp Pro Ile Phe
165 170 175

Lys Ser Ile Gln Val Gln Pro Leu Ser Asn Ser Pro Ser Asn Tyr Glu
180 185 190

Lys Pro Val Ile Pro Glu Phe Ala Asp Ile Ser Thr Val Gln Gln Gly
195 200 205

Gln Pro Leu His Arg Asp Ser Ala Glu Tyr His Ile Asp Val Pro Leu
210 215 220

Thr Tyr Lys His Ile Ile Asn Pro Lys Arg Gln Glu Asp Ala Gly Tyr
225 230 235 240

Asp Ile Cys Val Pro Tyr Asn Leu Tyr Leu Lys Arg Asn Glu Phe Ile
245 250 255

Lys Ile Val Leu Pro Ile Ile Arg Asp Trp Asp Leu Gln His Pro Ser
260 265 270

Ile Asn Ala Tyr Ile Phe Gly Arg Ser Ser Lys Ser Arg Ser Gly Ile
275 280 285

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Ile Val Cys Pro Thr Ala Trp Pro Ala Gly Glu His Cys Lys Phe Tyr
290 295 300

Val Tyr Asn Leu Thr Gly Asp Asp Ile Arg Ile Lys Thr Gly Asp Arg
305 310 315 320

Leu Ala Gln Val Leu Leu Ile Asp His Asn Thr Gln Ile His Leu Lys
325 330 335

His Asn Val Leu Ser Asn Ile Ala Phe Pro Tyr Ala Ile Arg Gly Lys
340 345 350

Cys Gly Ile Pro Gly Val Gln Trp Tyr Phe Thr Lys Thr Leu Asp Leu
355 360 365

Ile Ala Thr Pro Ser Glu Arg Gly Thr Arg Gly Phe Gly Ser Thr Asp
370 375 380

Lys Glu Thr Asn Asp Val Asp Phe Leu Leu Lys His
385 390 395

<210> 75

<211> 1083

<212> PRT

<213> Varicella zoster

<400> 75

Met Asp Lys Ser Ser Lys Pro Thr Ile Arg Leu Leu Phe Ala Thr Lys
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Gly Cys Ala Ile Ser His Ser Leu Leu Leu Leu Thr Gly Gln Ile Ser
20 25 30

Thr Glu Pro Leu Tyr Val Val Ser Tyr Thr Trp Thr Pro Asp Leu Asp
35 40 45

Asp Val Phe Val Lys Asn Gly Arg Glu Glu Ile Thr Gln Val Ile Pro
50 55 60

Thr Lys Arg Pro Arg Glu Val Thr Glu Asn Asp Glu Glu Asn Gln Ile
65 70 75 80

Met His Leu Phe Cys Ser Arg Asp Val Asn Val Ile Phe Tyr Leu Ile
85 90 95

Gly Gly Phe Ser Thr Gly Asp Val Arg Ser Arg Val Trp Pro Ile Phe
100 105 110

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Phe Cys Cys Phe Lys Thr Gln Thr Asp Phe Lys Ala Leu Tyr Lys Ala
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 Leu Trp Tyr Gly Ala Pro Leu Asn Pro His Ile Ile Ser Asp Thr Leu
 130 135 140
 Cys Ile Ser Glu Thr Phe Asp Ile His Ser Glu Val Ile Gln Thr Leu
 145 150 155 160
 Met Val Thr Thr His His Leu Asn Arg Lys Gly Leu Ser Asp Asn Gly
 165 170 175
 Leu Cys Ile Thr Glu Ala Thr Leu Cys Lys Leu Val Lys Lys Ser Val
 180 185 190
 Gly Arg Gln Glu Leu Thr Ser Leu Tyr Ala His Tyr Glu Arg Gln Val
 195 200 205
 Leu Ala Ala Tyr Arg Arg Leu Tyr Trp Gly Tyr Gly Cys Ser Pro Phe
 210 215 220
 Trp Tyr Ile Val Arg Phe Gly Pro Ser Glu Lys Thr Leu Val Leu Ala
 225 230 235 240
 Thr Arg Tyr Tyr Leu Leu Gln Thr Asp Thr Ser Tyr Asn Thr Leu Glu
 245 250 255
 Thr Pro Leu Tyr Asp Leu Gln Ala Ile Lys Asp Leu Phe Leu Thr Tyr
 260 265 270
 Gln Val Pro Ala Leu Pro Asn Cys Ser Gly Tyr Asn Ile Ser Asp Leu
 275 280 285
 Leu Ser Phe Asp Lys Leu Ser Met Phe Cys Cys Ser Ser Thr Tyr Thr
 290 295 300
 Arg Gly Leu Thr Ala Lys Asn Ala Leu Ser Tyr Ile Leu Gln Arg Ile
 305 310 315 320
 His Thr Asp Thr Thr Glu Ile His Ala Val Ser Glu Tyr Ile Thr Asn
 325 330 335
 Asp Arg Lys Gly Leu Lys Val Pro Asp Arg Glu Phe Val Asp Tyr Ile
 340 345 350
 Tyr Leu Ala His Phe Glu Cys Phe Asn Arg Lys Gln Ile Ala Asp His
 355 360 365

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Leu Gln Ala Val Thr Tyr Ser Asp Phe Val Asn Lys Pro Val Leu Leu
 370 375 380
 Lys Ser Ser Asn Leu Gly Lys Arg Ala Thr Ala Asn Phe Phe Asn His
 385 390 395 400
 Val Arg Ser Arg Leu Asn Met Arg Asp Tyr Ile Lys Lys Asn Val Ile
 405 410 415
 Cys Asp Val Thr Glu Leu Gly Pro Glu Ile Gly His Lys Tyr Thr Ile
 420 425 430
 Thr Lys Thr Tyr Thr Leu Ser Leu Thr Tyr Ala Ala Lys Pro Ser Lys
 435 440 445
 Phe Ile Gly Val Cys Asp Leu Ala Thr Thr Leu Thr Arg Arg Val Glu
 450 455 460
 Asn Ile Glu Lys Gln Phe Ser Pro Tyr Gly Trp Ser Ser Thr Ile Pro
 465 470 475 480
 Ser Asn Pro Pro Gly Phe Asp Glu Leu Ser Asn Phe Glu Asp Ser Gly
 485 490 495
 Val Ser Ala Glu Ala Leu Arg Ala Ala Asn Phe Ala Asn Asp Thr Pro
 500 505 510
 Asn Gln Ser Gly Arg Thr Gly Phe Asp Thr Ser Pro Gly Ile Thr Lys
 515 520 525
 Leu Leu Leu Phe Phe Ser Ala Ala Thr Gly Ile Ala Thr His Asp Val
 530 535 540
 Ser Ile Leu Ser Tyr Lys Thr Pro Leu Glu Ala Leu Ile Gly His Ser
 545 550 555 560
 Glu Val Thr Gly Pro Met Pro Val Tyr Arg Val Ala Leu Pro His Gly
 565 570 575
 Ala Gln Ala Phe Ala Val Ile Ala Asn Asp Thr Trp Ser Ser Ile Thr
 580 585 590
 Asn Arg Tyr Thr Leu Pro His Glu Ala Arg Leu Ile Ala Glu Asp Leu
 595 600 605
 Lys Gln Ile Asn Pro Cys Asn Phe Val Ala Ala Ser Leu Arg Asp Met

610

615

620

Gln Leu Thr Leu Leu Leu Ser Thr Ser Val Lys Asn Val Ser Lys Ile
625 630 635 640

Ser Ser Asn Ile Pro Lys Asp Gln Leu Tyr Ile Asn Arg Asn Glu Leu
645 650 655

Phe Asn Thr Asn Leu Ile Ile Thr Asn Leu Ile Leu Asp Val Asp Phe
660 665 670

His Ile Arg Lys Pro Ile Pro Leu Gly Ile Leu His Ala Gly Met Arg
675 680 685

Ala Phe Arg His Gly Ile Leu Thr Ala Met Gln Leu Leu Phe Pro Lys
690 695 700

Ala Val Val Asn Pro Asn Lys Asp Pro Cys Tyr Phe Tyr Lys Thr Ala
705 710 715 720

Cys Pro Glu Pro Thr Val Glu Val Leu Asp Asp Asp Asn Leu Leu Asp
725 730 735

Ile Thr Ser His Ser Asp Ile Asp Phe Tyr Ile Glu Asn Gly Glu Leu
740 745 750

Tyr Thr Cys Val Glu Glu Asn Tyr Thr Glu Asp Val Trp Phe Phe Asp
755 760 765

Thr Gln Thr Thr Ser Glu Val His Thr His Ala Asp Val Ser Asn Asn
770 775 780

Glu Asn Leu His Glu Thr Leu Pro Cys Asn Cys Lys Glu Lys Ile Gly
785 790 795 800

Phe Arg Val Cys Val Pro Ile Pro Asn Pro Tyr Ala Leu Val Gly Ser
805 810 815

Ser Thr Leu Lys Gly Phe Ala Gln Ile Leu Gln Gln Ala Val Leu Leu
820 825 830

Glu Arg Glu Phe Val Glu Tyr Ile Gly Pro Tyr Leu Arg Asp Phe Ser
835 840 845

Phe Ile Asp Thr Gly Val Tyr Ser His Gly His Ser Leu Arg Leu Pro
850 855 860

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Phe Phe Ser Lys Val Thr Thr Thr Gly Thr Ala Val Gly Gln Leu Leu
865 870 875 880

Pro Phe Tyr Val Val Pro Glu Gln Cys Ile Asp Ile Leu Ala Phe Val
885 890 895

Thr Ser His Arg Asn Pro Ala Asn Phe His Phe His Ser Arg Pro Gln
900 905 910

Ser Asn Val Pro Val Gln Phe Ile Leu His Asn Leu Gly Gly Glu Tyr
915 920 925

Ala Glu Phe Phe Glu Arg Lys Val Ala Arg Asn Lys Gln Ile Phe Ser
930 935 940

Ser Pro Gln Ile Ser Leu Thr Lys Ala Leu Lys Glu Arg Gly Val Thr
945 950 955 960

Cys Leu Asp Ala Phe Thr Leu Glu Ala Phe Val Asp Ser Thr Ile Leu
965 970 975

Glu Ser Ile Val Glu His Ile Ala Val His Phe Pro Gly Arg Asp Arg
980 985 990

Glu Tyr Thr Leu Thr Ser Ser Lys Cys Ile Ala Ile Lys Arg Asp Trp
995 1000 1005

Val Leu Phe Gln Leu Ile Cys Gly Thr Lys Gly Phe Thr Cys Leu
1010 1015 1020

Arg Tyr Pro His Arg Gly Gly Arg Thr Ala Pro Arg Thr Phe Val
1025 1030 1035

Ser Leu Arg Val Asp His His Asn Arg Leu Cys Ile Ser Leu Ala
1040 1045 1050

Gln Gln Cys Phe Ala Thr Lys Cys Asp Ser Asn Arg Met His Thr
1055 1060 1065

Ile Phe Thr Leu Glu Val Pro Asn Tyr Pro Asn Leu Thr Ser Ser
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<211> 340

<212> PRT

<213> Varicella zoster

<400> 76

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 20 25 30
 Phe Glu His Glu Cys Val Tyr Ala Thr Thr Val Ile Asn Gly Gly Pro
 35 40 45
 Val Val Trp Gly Ser Tyr Asn Asn Ser Leu Ile Tyr Val Thr Phe Val
 50 55 60
 Asn His Ser Thr Phe Leu Asp Gly Leu Ser Gly Tyr Asp Tyr Ser Cys
 65 70 75 80
 Arg Glu Asn Leu Leu Ser Gly Asp Thr Met Val Lys Thr Ala Ile Ser
 85 90 95
 Thr Pro Leu His Asp Lys Ile Arg Ile Val Leu Gly Thr Arg Asn Cys
 100 105 110
 His Ala Tyr Phe Trp Cys Val Gln Leu Lys Met Ile Phe Phe Ala Trp
 115 120 125
 Phe Val Tyr Gly Met Tyr Leu Gln Phe Arg Arg Ile Arg Arg Met Phe
 130 135 140
 Gly Pro Phe Arg Ser Ser Cys Glu Leu Ile Ser Pro Thr Ser Tyr Ser
 145 150 155 160
 Leu Asn Tyr Val Thr Arg Val Ile Ser Asn Ile Leu Leu Gly Tyr Pro
 165 170 175
 Tyr Thr Lys Leu Ala Arg Leu Leu Cys Asp Val Ser Met Arg Arg Asp
 180 185 190
 Gly Met Ser Lys Val Phe Asn Ala Asp Pro Ile Ser Phe Leu Tyr Met
 195 200 205
 His Lys Gly Val Thr Leu Leu Met Leu Leu Glu Val Ile Ala His Ile
 210 215 220
 Ser Ser Gly Cys Ile Val Leu Leu Thr Leu Gly Val Ala Tyr Thr Pro
 225 230 235 240
 Cys Ala Leu Leu Tyr Pro Thr Tyr Ile Arg Ile Leu Ala Trp Val Val
 245 250 255

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Val Cys Thr Leu Ala Ile Val Glu Leu Ile Ser Tyr Val Arg Pro Lys
260 265 270

Pro Thr Lys Asp Asn His Leu Asn His Ile Asn Thr Gly Gly Ile Arg
275 280 285

Gly Ile Cys Thr Thr Cys Cys Ala Thr Val Met Ser Gly Leu Ala Ile
290 295 300

Lys Cys Phe Tyr Ile Val Ile Phe Ala Ile Ala Val Val Ile Phe Met
305 310 315 320

His Tyr Glu Gln Arg Val Gln Val Ser Leu Phe Gly Glu Ser Glu Asn
325 330 335

Ser Gln Lys His
340

<210> 77
<211> 452
<212> PRT
<213> Varicella zoster

<400> 77

Met Ala Ser Ala Ser Ile Pro Thr Asp Pro Asp Val Ser Thr Ile Cys
1 5 10 15

Glu Asp Phe Met Asn Leu Leu Pro Asp Glu Pro Ser Asp Asp Phe Ala
20 25 30

Leu Glu Val Thr Asp Trp Ala Asn Asp Glu Ala Ile Gly Ser Thr Pro
35 40 45

Gly Glu Asp Ser Thr Thr Ser Arg Thr Val Tyr Val Glu Arg Thr Ala
50 55 60

Asp Thr Ala Tyr Asn Pro Arg Tyr Ser Lys Arg Arg His Gly Arg Arg
65 70 75 80

Glu Ser Tyr His His Asn Arg Pro Lys Thr Leu Val Val Val Leu Pro
85 90 95

Asp Ser Asn His His Gly Gly Arg Asp Val Glu Thr Gly Tyr Ala Arg
100 105 110

Ile Glu Arg Gly His Arg Arg Ser Ser Arg Ser Tyr Asn Thr Gln Ser
115 120 125

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Ser Arg Lys His Arg Asp Arg Ser Leu Ser Asn Arg Arg Arg Arg Pro
 130 135 140
 Thr Thr Pro Pro Ala Met Thr Thr Gly Glu Arg Asn Asp Gln Thr His
 145 150 155 160
 Asp Glu Ser Tyr Arg Leu Arg Phe Ser Lys Arg Asp Ala Arg Arg Glu
 165 170 175
 Arg Ile Arg Lys Glu Tyr Asp Ile Pro Val Asp Arg Ile Thr Gly Arg
 180 185 190
 Ala Ile Glu Val Val Ser Thr Ala Gly Ala Ser Val Thr Ile Asp Ser
 195 200 205
 Val Arg His Leu Asp Glu Thr Ile Glu Lys Leu Val Val Arg Tyr Ala
 210 215 220
 Thr Ile Gln Glu Gly Asp Ser Trp Ala Ser Gly Gly Cys Phe Pro Gly
 225 230 235 240
 Ile Lys Gln Asn Thr Ser Trp Pro Glu Leu Met Leu Tyr Gly His Glu
 245 250 255
 Leu Tyr Arg Thr Phe Glu Ser Tyr Lys Met Asp Ser Arg Ile Ala Arg
 260 265 270
 Ala Leu Arg Glu Arg Val Ile Arg Gly Glu Ser Leu Ile Glu Ala Leu
 275 280 285
 Glu Ser Ala Asp Glu Leu Leu Thr Trp Ile Lys Met Leu Ala Ala Lys
 290 295 300
 Asn Leu Pro Ile Tyr Thr Asn Asn Pro Ile Val Ala Thr Ser Lys Ser
 305 310 315 320
 Leu Leu Glu Asn Leu Lys Leu Lys Leu Gly Pro Phe Val Arg Cys Leu
 325 330 335
 Leu Leu Asn Arg Asp Asn Asp Leu Gly Ser Arg Thr Leu Pro Glu Leu
 340 345 350
 Leu Arg Gln Gln Arg Phe Ser Asp Ile Thr Cys Ile Thr Thr Tyr Met
 355 360 365
 Phe Val Met Ile Ala Arg Ile Ala Asn Ile Val Val Arg Gly Ser Lys
 370 375 380

591508037SeqListAug2010

Phe Val Glu Tyr Asp Asp Ile Ser Cys Asn Val Gln Val Leu Gln Glu
385 390 395 400

Tyr Thr Pro Gly Ser Cys Leu Ala Gly Val Leu Glu Ala Leu Ile Thr
405 410 415

His Gln Arg Glu Cys Gly Arg Val Glu Cys Thr Leu Ser Thr Trp Ala
420 425 430

Gly His Leu Ser Asp Ala Arg Pro Tyr Gly Lys Tyr Phe Lys Cys Ser
435 440 445

Thr Phe Asn Cys
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<210> 78
<211> 179
<212> PRT
<213> Varicella zoster
<400> 78

Met Asp Thr Thr Gly Ala Ser Glu Ser Ser Gln Pro Ile Arg Val Asn
1 5 10 15

Leu Lys Pro Asp Pro Leu Ala Ser Phe Thr Gln Val Ile Pro Pro Leu
20 25 30

Ala Leu Glu Thr Thr Trp Thr Cys Pro Ala Asn Ser His Ala Pro Thr
35 40 45

Pro Ser Pro Leu Tyr Gly Val Lys Arg Leu Cys Ala Leu Arg Ala Thr
50 55 60

Cys Gly Arg Ala Asp Asp Leu His Ala Phe Leu Ile Gly Leu Gly Arg
65 70 75 80

Arg Asp Lys Pro Ser Glu Ser Pro Met Tyr Val Asp Leu Gln Pro Phe
85 90 95

Cys Ser Leu Leu Asn Ser Gln Arg Leu Leu Pro Glu Met Ala Asn Tyr
100 105 110

Asn Thr Leu Cys Asp Ala Pro Phe Ser Ala Ala Thr Gln Gln Met Met
115 120 125

Leu Glu Ser Gly Gln Leu Gly Val His Leu Ala Ala Ile Gly Tyr His
130 135 140

591508037SeqListAug2010

Cys His Cys Lys Ser Pro Phe Ser Ala Glu Cys Trp Thr Gly Ala Ser
145 150 155 160

Glu Ala Tyr Asp His Val Val Cys Gly Gly Lys Ala Arg Ala Ala Val
165 170 175

Gly Gly Leu

<210> 79
<211> 108
<212> PRT
<213> Varicella zoster
<400> 79

Met Ser Arg Val Ser Glu Tyr Gly Val Pro Glu Gly Val Arg Glu Ser
1 5 10 15

Asp Ser Asp Thr Asp Ser Val Phe Met Tyr Gln His Thr Glu Leu Met
20 25 30

Gln Asn Asn Ala Ser Pro Leu Val Val Gln Thr Arg Pro Pro Ala Val
35 40 45

Leu Ile Pro Leu Val Asp Val Pro Arg Pro Arg Ser Arg Arg Lys Ala
50 55 60

Ser Ala Gln Leu Lys Met Gln Met Asp Arg Leu Cys Asn Val Leu Gly
65 70 75 80

Val Val Leu Gln Met Ala Thr Leu Ala Leu Val Thr Tyr Ile Ala Phe
85 90 95

Val Val His Thr Arg Ala Thr Ser Cys Lys Arg Glu
100 105

<210> 80
<211> 5743
<212> DNA
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<400> 80

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tat ttt gaa cgt cta aag cgt cgt agg gat gaa cgc ttt ggg acg ttg Tyr Phe Glu Arg Leu Lys Arg Arg Arg Asp Glu Arg Phe Gly Thr Leu 20 25 30	96
gag tcc cct acc ccg tgt tcc acg cgg caa ggg tct ctg gga aac gca Glu Ser Pro Thr Pro Cys Ser Thr Arg Gln Gly Ser Leu Gly Asn Ala 35 40 45	144
acc caa atc ccg ttt ctg aat ttt gct ata gat gta acc cga cgt cat Thr Gln Ile Pro Phe Leu Asn Phe Ala Ile Asp Val Thr Arg Arg His 50 55 60	192
cag gcc gtt att ccc gga att gga acg ctt cac aac tgt tgt gaa tat Gln Ala Val Ile Pro Gly Ile Gly Thr Leu His Asn Cys Cys Glu Tyr 65 70 75 80	240
att cca ctg ttc tcg gct act gct cga cgg gca atg ttt ggc gcg ttt Ile Pro Leu Phe Ser Ala Thr Ala Arg Arg Ala Met Phe Gly Ala Phe 85 90 95	288
cta tcg tca aca ggg tac aac tgt acc ccc aat gta gtt ttg aaa cca Leu Ser Ser Thr Gly Tyr Asn Cys Thr Pro Asn Val Val Leu Lys Pro 100 105 110	336
tgg cga tat tcg gta aat gca aac gta agc cct gaa tta aaa aag gct Trp Arg Tyr Ser Val Asn Ala Asn Val Ser Pro Glu Leu Lys Lys Ala 115 120 125	384
gtc agt agt gta cag ttt tat gaa tat tca ccg gaa gaa gca gca cct Val Ser Ser Val Gln Phe Tyr Glu Tyr Ser Pro Glu Glu Ala Ala Pro 130 135 140	432
cat cga aat gcg tat agc ggt gtt atg aac aca ttt cgc gcg ttt tct His Arg Asn Ala Tyr Ser Gly Val Met Asn Thr Phe Arg Ala Phe Ser 145 150 155 160	480
ctg tcg gat agt ttc tgt cag ttg tct acc ttt aca caa cgg ttt tcg Leu Ser Asp Ser Phe Cys Gln Leu Ser Thr Phe Thr Gln Arg Phe Ser 165 170 175	528
tac ctt gtg gaa aca tct ttt gag agt att gaa gag tgt gga agt cat Tyr Leu Val Glu Thr Ser Phe Glu Ser Ile Glu Glu Cys Gly Ser His 180 185 190	576
ggc aaa cgc gca aag gtt gac gtt cca atc tat ggc aga tat aag ggg Gly Lys Arg Ala Lys Val Asp Val Pro Ile Tyr Gly Arg Tyr Lys Gly 195 200 205	624
acg ttg gaa ctg ttt caa aaa atg atc ctc atg cac acc acg cat ttt Thr Leu Glu Leu Phe Gln Lys Met Ile Leu Met His Thr Thr His Phe 210 215 220	672
att tca tcg gtg cta ttg ggc gat cat gcc gac aga gtt gac tgc ttt Ile Ser Ser Val Leu Leu Gly Asp His Ala Asp Arg Val Asp Cys Phe 225 230 235 240	720
ctg cgt aca gtg ttt aac acg cca agt gtt tct gac agt gtt tta gaa Leu Arg Thr Val Phe Asn Thr Pro Ser Val Ser Asp Ser Val Leu Glu 245 250 255 260 265 270 275 280	768

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245	250	255	
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aaa aca tgg ttt ctt gta cca tta ata gct tta gta atg gcc acg ttt Lys Thr Trp Phe Leu Val Pro Leu Ile Ala Leu Val Met Ala Thr Phe 275 280 285			864
aga gga att aaa gtg ggt tat acg gct cat ata cgc aaa gca acg gaa Arg Gly Ile Lys Val Gly Tyr Thr Ala His Ile Arg Lys Ala Thr Glu 290 295 300			912
ccc gtg ttt gag ggt atc aag tct cgc ctg gaa cag tgg ttt ggg gca Pro Val Phe Glu Gly Ile Lys Ser Arg Leu Glu Gln Trp Phe Gly Ala 305 310 315 320			960
aat tac gtg gat cat gta aaa ggc gaa tct att acg ttt tca ttt acc Asn Tyr Val Asp His Val Lys Gly Glu Ser Ile Thr Phe Ser Phe Thr 325 330 335			1008
gac ggg tct tac agc aca gcg gtg ttc gcg tca agt cac aac aca aac Asp Gly Ser Tyr Ser Thr Ala Val Phe Ala Ser Ser His Asn Thr Asn 340 345 350			1056
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tctacctcca cttttaattc ccgctgaccg gcctttctcc acatacacgg agcccaacac			1476
acacaacctt ccgcatgatt tgtgacatgg ggtaacgcat acagtgcgcc cacgtgaact			1536
ctatgattac attcatcaca tccgtccgca tggctgagga gtcgatttaa tacagagcca			1596
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agatctgcgg ggggtgggac tgctcgagga tccggaatag atgttggaag ggggtacgcg			1836
atcgggttct taaacgttgc tccaaaaaca tgggtctatgt tttcaaccgg ataaattctt			1896
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ataggtccga	ttaacgatgc	aggtagtgct	gcctgtaggg	tatcggtaat	acaaaaacat	2496
gccgcaaadc	cccccggtaa	aactaaaatg	gattgtaatt	gctgggttaa	tcctagacaa	2556
atgtacgcgt	aacattgacc	gggtaaatac	ttagaacaaa	ttccaatatc	aacaatatcc	2616
gcgctgcgta	taaattttacc	cctcagttgt	gtggaattac	caataccaac	cttttctaag	2676
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gtg Val 685	gag Glu	tat Tyr	cta Leu	tgt Cys	aaa Lys	cag Gln 690	ttg Leu	gat Asp	aac Asn	ctg Leu	aca Thr 695	gag Glu	gta Val	att Ile	aaa Lys	5596
ggc Gly 700	ggt Gly	atg Met	ggt Gly	aat Asn	cta Leu 705	gac Asp	aca Thr	aaa Lys	act Thr	tac Tyr 710	acg Thr	ggt Gly	aaa Lys	ggt Gly	acc Thr 715	5644
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Glu Gly Asn Ser Ser Gln Asp Ser Ala Val Ala Ile Ser Leu Ala Ile
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Phe Val Lys Arg Phe Asn Ser Gly Asn Ile Ile Ala Ser Gln Glu Leu
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 Ala Val Met Leu Leu Ala Thr Leu Ile Ala Ala Ser Ser Glu Tyr Thr
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 Ala Pro Val Leu Phe Leu Glu Pro His Ser Val Val Ala Phe Thr Tyr
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 Tyr Thr Ala Leu Thr Ala Met Ala Met Ala Val Tyr Thr Leu Ile Thr
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 180 185 190
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Asn	Tyr	Pro	Ser	Gln	Gly	Tyr	Gly	Tyr	Val	Tyr	Glu	Asn	Asp	Ser	Thr	
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Leu Leu Ser Leu Trp Leu Leu Asn Ala Val Val Leu Leu Leu Ala Tyr
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Lys Gln Ile Gly Val Ala Ala Thr Leu Tyr Leu Gly His Phe Ala Thr
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Ser Val Ile Phe Thr Thr Tyr Phe Cys Gly Arg Gly Lys Leu Asp Glu
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Ala Met Ser Thr Phe Ser Thr Leu Ser Val Val Tyr Leu Ile Val Ser
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Gly Thr Leu Val Ala Cys Ala Thr Leu Gly Thr Ala Ala His Ser Tyr
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Met Asp Arg Leu Tyr Asp Pro Ile Ser Val Gln Ser Pro Arg Leu Ile
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Pro Thr Thr Arg Gly Thr Leu Ala Cys Leu Ala Val Phe Ser Val Val
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Met Leu Leu Leu Arg Leu Met Arg Ala Tyr Val Tyr His Arg Gln Lys
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Arg Ser Arg Phe Tyr Gly Ala Val Arg Arg Val Pro Glu Arg Val Arg
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Gly Tyr Ile Arg Lys Val Lys Pro Ala His Arg Asn Ser Arg Arg Thr
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Lys Arg Ile Ala Ser Ser Val Ser Ile Asp Gln Gly Leu Asn Gly Ser																	
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Tyr Gly Leu Cys Gly Glu Ser Glu Ala Val Arg Leu Ala His Gln Val																	
145 150 155 160																	
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Phe Glu Thr Trp Arg Gln Thr Leu Gln Ser Ser Leu Leu Glu Phe Leu																	
165 170 175																	
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Arg Gly Ile Thr Gly Cys Leu Tyr Thr Ser Ser Gly Leu Asn Gly Arg Val																	
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Asn Thr Tyr Met Gly Gln Ala Ala Glu Leu Ser Gln Met Leu Lys Val																	
225 230 235 240																	
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Tyr	Tyr	Asn	Tyr	Asn	Arg	Arg	Leu	Ile	Met	Ala	Lys	Asp	Asp	Val	Thr	
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Gly	Met	Lys	Gly	Glu	Cys	Leu	Val	Val	Trp	Pro	Pro	Val	Val	Cys	Gly	
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Glu	Gly	Val	Val	Phe	Asp	Ser	Pro	Leu	Gln	Arg	Leu	Ser	Gly	Glu	Val	
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Arg	Ser	His	Ser	Thr	Arg	Ala	Val	Asp	Arg	Ile	Met	Gly	Glu	Asn	Asp	
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Val	Asp	Thr	Ser	Gln	Pro	Gly	Phe	Gly	Lys	Ala	Asn	Gln	Ser	Phe	Asn	
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Ser	Val	Val	Asn	Ser	Ile	Asn	Gly	Met	Leu	Glu	Gly	Tyr	Val	Asn	Asn	
	450					455					460					
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Leu	Phe	Lys	Thr	Ile	Glu	Gly	Leu	Lys	Asp	Val	Asn	Ser	Asp	Leu	Thr	
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gaa	agg	ctc	cag	ttc	aaa	gaa	gga	gag	ctg	aaa	cgg	tta	cgg	gaa	gag	1488
Glu	Arg	Leu	Gln	Phe	Lys	Glu	Gly	Glu	Leu	Lys	Arg	Leu	Arg	Glu	Glu	
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Glu	Thr	Arg	Ile	Ala	Asp	Leu	Asn	His	Glu	Val	Ile	Asp	Leu	Thr	Gly	
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Ile	Ile	Gly	Asp	Asp	Ala	Tyr	Ile	Ala	Asn	Ser	Phe	Gln	Ser	Arg	Tyr	
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Gln	Glu	Leu	Val	Arg	Cys	Phe	Lys	Leu	His	Arg	Val	Asn	Asn	Asn	Gln	
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Gly	Gln	Glu	Ile	Ser	Val	Ser	Tyr	Ser	Asn	Ala	Ser	Ile	Ser	Leu	Leu	
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Ile	Leu	Tyr	Glu	Met	Gln	Val	Arg	Ala	Glu	Val	Ile	Lys	Arg	Gly	Pro	
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cgg	aga	aca	cca	agt	cct	tcc	tgg	ggt	ttg	cct	gac	cct	aca	gaa	gat	2016
Arg	Arg	Thr	Pro	Ser	Pro	Ser	Trp	Gly	Leu	Pro	Asp	Pro	Thr	Glu	Asp	
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Asp	Glu	Arg	Ile	Pro	Glu	Pro	Asn	Lys	Ile	Asn	Asn	Gln	Tyr	Met	His	
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gtt	gga	tat	aaa	aac	cta	tcc	cat	ttt	atg	aaa	gga	cac	ccc	cct	gag	2112
Val	Gly	Tyr	Lys	Asn	Leu	Ser	His	Phe	Met	Lys	Gly	His	Pro	Pro	Glu	
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Arg	Leu	Arg	Val	His	Lys	Val	Asn	Ala	Ala	Asp	Ser	Thr	Leu	Leu	Asp	
705					710					715					720	
aaa	att	cga	gca	aac	cgg	agg	cgc	ggg	gat	ggc	cga	tgg	gat	gtc	cgg	2208
Lys	Ile	Arg	Ala	Asn	Arg	Arg	Arg	Gly	Asp	Gly	Arg	Trp	Asp	Val	Arg	
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aat	aaa	tat	acc	cag	cat	ttt	agg	ttg	cag	cgt	aac	gat	cga	caa	ctt	2256
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Tyr Ala Pro Asp Ile Gly Phe Cys Thr Phe Pro Glu Glu Asp Gly Trp
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Met Leu Ile His Pro Thr Thr Gln Ser Met Leu Phe Arg Lys Ile Leu
 65 70 75 80

Ala Gly Asp Phe Gly Tyr Thr Asp Gly Gln Gly Ile Tyr Ser Ala Val
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Arg Ser Thr Glu Thr Val Ile Arg Gln Val Gln Ala Thr Val Leu Met
 100 105 110

Asn Ala Leu Asp Ala Thr Arg Tyr Glu Asp Leu Ala Ala Asp Trp Glu
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 130 135 140

Tyr Gly Leu Cys Gly Glu Ser Glu Ala Val Arg Leu Ala His Gln Val
 145 150 155 160

Phe Glu Thr Trp Arg Gln Thr Leu Gln Ser Ser Leu Leu Glu Phe Leu
 165 170 175

Arg Gly Ile Thr Gly Cys Leu Tyr Thr Ser Gly Leu Asn Gly Arg Val
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Gly Phe Ala Lys Tyr Val Asp Trp Ile Ala Cys Val Gly Ile Val Pro
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 Asn Thr Tyr Met Gly Gln Ala Ala Glu Leu Ser Gln Met Leu Lys Val
 225 230 235 240
 Ala Asp Ala Thr Leu Ala Arg Gly Ala Ala Val Val Thr Ser Leu Val
 245 250 255
 Glu Cys Met Gln Asn Val Ala Ile Met Asp Tyr Asp Arg Thr Arg Leu
 260 265 270
 Tyr Tyr Asn Tyr Asn Arg Arg Leu Ile Met Ala Lys Asp Asp Val Thr
 275 280 285
 Gly Met Lys Gly Glu Cys Leu Val Val Trp Pro Pro Val Val Cys Gly
 290 295 300
 Glu Gly Val Val Phe Asp Ser Pro Leu Gln Arg Leu Ser Gly Glu Val
 305 310 315 320
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 325 330 335
 Asn Thr Ala Pro Leu Arg Val Leu Ile Gly Arg Arg Asn Glu Asp Asp
 340 345 350
 Arg Ser His Ser Thr Arg Ala Val Asp Arg Ile Met Gly Glu Asn Asp
 355 360 365
 Thr Thr Arg Ala Gly Ser Ala Ala Ser Arg Leu Val Lys Leu Ile Val
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 Asn Leu Lys Asn Met Arg His Val Gly Asp Ile Thr Glu Thr Val Arg
 385 390 395 400
 Ser Tyr Leu Glu Glu Thr Gly Asn His Ile Leu Glu Gly Ser Gly Ser
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 485 490 495
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 500 505 510
 Glu Thr Arg Ile Ala Asp Leu Asn His Glu Val Ile Asp Leu Thr Gly
 515 520 525
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 530 535 540
 Ile Pro Pro Tyr Gly Asp Asp Ile Lys Arg Leu Ser Glu Leu Trp Lys
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 Gly Gln Glu Ile Ser Val Ser Tyr Ser Asn Ala Ser Ile Ser Leu Leu
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 Val Ala Pro Tyr Phe Ser Phe Ile Leu Arg Ala Thr Arg Leu Gly Phe
 595 600 605
 Leu Val Thr Gln Ser Glu Val His Arg Ser Glu Glu Glu Leu Cys Gln
 610 615 620
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 Arg Arg Thr Pro Ser Pro Ser Trp Gly Leu Pro Asp Pro Thr Glu Asp
 660 665 670
 Asp Glu Arg Ile Pro Glu Pro Asn Lys Ile Asn Asn Gln Tyr Met His
 675 680 685
 Val Gly Tyr Lys Asn Leu Ser His Phe Met Lys Gly His Pro Pro Glu
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695

Arg Leu Arg Val His Lys Val Asn Ala Ala Asp Ser Thr Leu Leu Asp
705 710 715 720

Lys Ile Arg Ala Asn Arg Arg Arg Gly Asp Gly Arg Trp Asp Val Arg
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Gly Trp Gly Leu His Arg Gly Pro Cys Ser Ile Pro Asn Phe Lys Gln	
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Asp Ala Asn Glu Lys Phe Pro Ile Gly His Ala Gly Cys Ile Glu Lys	
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acc aaa gac gac tat gta cca ttt gat acg ttg ttc atg gta tca tct	240
Thr Lys Asp Asp Tyr Val Pro Phe Asp Thr Leu Phe Met Val Ser Ser	
65 70 75 80	
att gac gaa ctt ggg cgg aga caa tta acc gac acc atc cgc cgc agc	288
Ile Asp Glu Leu Gly Arg Arg Gln Leu Thr Asp Thr Ile Arg Arg Ser	
85 90 95	
ttg gtt atg aac gcc tgt gaa ata acg gtc gcg tgt acg aaa acc gca	336
Leu Val Met Asn Ala Cys Glu Ile Thr Val Ala Cys Thr Lys Thr Ala	
100 105 110	
gcc ttt tct ggt cga ggc gtg tca cga caa aaa cac gtg acc cta tct	384

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 130 135 140

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 145 150 155 160

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gga aaa tcg cgt ccg ttg gta cca gtg ttt gtg tat gag ttt acg gct 576
 Gly Lys Ser Arg Pro Leu Val Pro Val Phe Val Tyr Glu Phe Thr Ala
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tta gat cgt gtc ctt tta cat aag gaa aat act ttg acc gac caa cca 624
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 35 40 45

Asp Ala Asn Glu Lys Phe Pro Ile Gly His Ala Gly Cys Ile Glu Lys
 50 55 60

Thr Lys Asp Asp Tyr Val Pro Phe Asp Thr Leu Phe Met Val Ser Ser
 65 70 75 80

Ile Asp Glu Leu Gly Arg Arg Gln Leu Thr Asp Thr Ile Arg Arg Ser
 85 90 95

Leu Val Met Asn Ala Cys Glu Ile Thr Val Ala Cys Thr Lys Thr Ala
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Ala Phe Ser Gly Arg Gly Val Ser Arg Gln Lys His Val Thr Leu Ser
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Lys Asn Lys Phe Asn Pro Ser Ser His Lys Ser Leu Gln Met Phe Val
130 135 140

Leu Cys Gln Lys Thr His Ala Pro Arg Val Arg Asn Leu Leu Tyr Glu
145 150 155 160

Ser Ile Arg Ala Arg Arg Pro Arg Arg Tyr Tyr Thr Arg Ser Thr Asp
165 170 175

Gly Lys Ser Arg Pro Leu Val Pro Val Phe Val Tyr Glu Phe Thr Ala
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Thr Ile Ala Tyr Cys Leu His Leu Gln Asp Asp Thr Pro Leu Phe Phe	
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Gly Ala Lys Pro Leu Ser Asp Val Ser Leu Ile Ile Thr Glu Pro Cys	
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Val Ser Ser Val Tyr Glu Ala Trp Asp Tyr Ala Ala Pro Pro Val Ser	
50 55 60	
aac ctc agc gag gcg cta tcg gga atc gtg gtt aag aca aaa tgt cca	240
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gta ccg gaa gtt ata ctt tgg ttt aaa gac aaa caa atg gcg tac tgg	288
Val Pro Glu Val Ile Leu Trp Phe Lys Asp Lys Gln Met Ala Tyr Trp	
85 90 95	

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 Glu His Lys Ser Gly Asp Ile Arg Asp Ala Leu Leu Asp Ala Leu Ser
 115 120 125

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 130 135 140

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Gly Ala Lys Pro Leu Ser Asp Val Ser Leu Ile Ile Thr Glu Pro Cys
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Val Ser Ser Val Tyr Glu Ala Trp Asp Tyr Ala Ala Pro Pro Val Ser
 50 55 60

Asn Leu Ser Glu Ala Leu Ser Gly Ile Val Val Lys Thr Lys Cys Pro
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Val Pro Glu Val Ile Leu Trp Phe Lys Asp Lys Gln Met Ala Tyr Trp
 85 90 95

Thr Asn Pro Tyr Val Thr Leu Lys Gly Leu Ala Gln Ser Val Gly Glu
 100 105 110

Glu His Lys Ser Gly Asp Ile Arg Asp Ala Leu Leu Asp Ala Leu Ser
 115 120 125

Gly Val Trp Val Asp Ser Thr Pro Ser Ser Thr Asn Ile Pro Glu Asn
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 Ser Gly Val Pro Thr Gly Gly Glu Phe Val Leu Ile Pro Thr Ala Tyr
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 Tyr Ser Gln Leu Leu Thr Gly Gln Thr Lys Asn Pro Gln Val Ser Ile
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 Gly Ala Pro Asn Asn Gly Gln Tyr Ile Val Gly Pro Tyr Gly Ser Pro
 50 55 60
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 His Pro Pro Ala Phe Pro Pro Asn Thr Gly Gly Tyr Gly Cys Pro Pro
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 Gly His Phe Gly Gly Pro Tyr Gly Phe Pro Gly Tyr Pro Pro Pro Asn
 85 90 95
 cgt ttg gaa atg caa atg tcc gca ttt atg aac gca ttg gcc gcc gaa 336
 Arg Leu Glu Met Gln Met Ser Ala Phe Met Asn Ala Leu Ala Ala Glu
 100 105 110
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 Arg Gly Ile Asp Leu Gln Thr Pro Cys Val Asn Phe Pro Asp Lys Thr
 115 120 125
 gat gtc cgt cgt cca gga aaa cgg gat ttc aag agc atg gat caa agg 432
 Asp Val Arg Arg Pro Gly Lys Arg Asp Phe Lys Ser Met Asp Gln Arg
 130 135 140
 gaa ttg gat tct ttt tat agt ggg gag tct caa atg gac gga gag ttt 480
 Glu Leu Asp Ser Phe Tyr Ser Gly Glu Ser Gln Met Asp Gly Glu Phe
 145 150 155 160
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 Pro Ser Asn Ile Tyr Phe Pro Gly Glu Pro Thr Tyr Ile Thr His Arg
 165 170 175
 aga cgt cga gtt tct cca tca tat tgg cag agg aga cac aga gtt tct 576
 Arg Arg Arg Val Ser Pro Ser Tyr Trp Gln Arg Arg His Arg Val Ser
 180 185 190
 aat ggt cag cac gaa gag ctt gct ggg gtt gtg gca aaa ctg caa cag 624
 Asn Gly Gln His Glu Glu Leu Ala Gly Val Val Ala Lys Leu Gln Gln
 195 200 205

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His His Thr Asn Ile Pro Glu Gly Thr Arg Asp Pro Arg Ile Ser Ile	
225 230 235 240	
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Leu Leu Lys Gln Leu Gln Ser Val Ser Gly Leu Cys Ser Ser Gln Asn	
245 250 255	
aca aca agc acc cca cat aca gat aca gtt gga caa gat gta aat gca	816
Thr Thr Ser Thr Pro His Thr Asp Thr Val Gly Gln Asp Val Asn Ala	
260 265 270	
gtg gag gcg agt tcc aag gcc cct tta ata cag ggg tcc acg gca gac	864
Val Glu Ala Ser Ser Lys Ala Pro Leu Ile Gln Gly Ser Thr Ala Asp	
275 280 285	
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Gly Ala Pro Asn Asn Gly Gln Tyr Ile Val Gly Pro Tyr Gly Ser Pro	
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His Pro Pro Ala Phe Pro Pro Asn Thr Gly Gly Tyr Gly Cys Pro Pro	
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Gly His Phe Gly Gly Pro Tyr Gly Phe Pro Gly Tyr Pro Pro Pro Asn	
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Arg Leu Glu Met Gln Met Ser Ala Phe Met Asn Ala Leu Ala Ala Glu	
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Arg Gly Ile Asp Leu Gln Thr Pro Cys Val Asn Phe Pro Asp Lys Thr	
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Asp 130	Val	Arg	Arg	Pro	Gly	Lys 135	Arg	Asp	Phe	Lys	Ser 140	Met	Asp	Gln	Arg
Glu 145	Leu	Asp	Ser	Phe	Tyr 150	Ser	Gly	Glu	Ser	Gln 155	Met	Asp	Gly	Glu	Phe 160
Pro	Ser	Asn	Ile	Tyr 165	Phe	Pro	Gly	Glu	Pro 170	Thr	Tyr	Ile	Thr	His 175	Arg
Arg	Arg	Arg	Val 180	Ser	Pro	Ser	Tyr	Trp 185	Gln	Arg	Arg	His	Arg 190	Val	Ser
Asn	Gly	Gln 195	His	Glu	Glu	Leu	Ala 200	Gly	Val	Val	Ala	Lys 205	Leu	Gln	Gln
Glu	Val 210	Thr	Glu	Leu	Lys	Ser 215	Gln	Asn	Gly	Thr	Gln 220	Met	Pro	Leu	Ser
His 225	His	Thr	Asn	Ile	Pro 230	Glu	Gly	Thr	Arg	Asp 235	Pro	Arg	Ile	Ser	Ile 240
Leu	Leu	Lys	Gln	Leu 245	Gln	Ser	Val	Ser	Gly 250	Leu	Cys	Ser	Ser	Gln 255	Asn
Thr	Thr	Ser	Thr 260	Pro	His	Thr	Asp	Thr 265	Val	Gly	Gln	Asp	Val 270	Asn	Ala
Val	Glu	Ala 275	Ser	Ser	Lys	Ala	Pro 280	Leu	Ile	Gln	Gly	Ser 285	Thr	Ala	Asp
Asp	Ala 290	Asp	Met	Phe	Ala	Asn 295	Gln	Met	Met	Val	Gly 300	Arg	Cys		